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MOTOR GASOLINES, WINTER 1967-68

MOTOR GASOLINES, WINTER 1967-68

by

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CONTENTS

ILLUSTRATIONS

TABLES

INTRODUCTION

This report on the properties of motor fuels sold through service stations in the United States was made in accordance with a cooperative agreement between the American Petroleum Institute and the Bureau of Mines of the United States Department of the Interior. By agreement with the American Petroleum Institute, identification of the items is confidential.

It presents analytical data for 5,273 samples, representing the products of 76 companies. The samples were collected by companies during December, 1967, January, and February 1968. As in previous surveys, the gasolines covered by this survey include those from both large and small suppliers. The data were obtained by laboratories of various refiners, motor manufacturers, and chemical companies and submitted to the Bureau of Mines for compilation. A list of the motor-gasoline survey reports published during the past 10 years is on page 5.

SUMMARY

A summary of the characteristics of motor gasoline for winter 1967-68 is presented in table 1, and for comparison, a similar summary for winter 1966-67 is shown in table 2. Trends of some of the more important characteristics over a period of years are shown in figures 1 and 2. The following tabulation indicates trends of national average octane numbers during recent years:

	Regular-price		Premium-price	
	Octane number		Octane number	
	Research	Motor	Research	Motor
Summer 1966	93.3	85.4	99.8	91.3
Winter 1966-67	93.7	85.9	99.8	91.7
Summer 1967	93.8	85.8	99.9	91.7
Winter 1967-68	93.8	85.9	99.9	91.9

Regional average octane numbers of regular- and premium-price fuels may be found in tables 3 and 4.

A noticeable factor in the present survey is the increased volatility of the fuels over those of winter 1966-67. Higher vapor pressures and lower distillation temperatures may be observed in table 1 compared with table 2 and on the trend charts - figures 1 and 2.

Following are some comparisons of national averages from the last two winter surveys:

Regular-price gasoline	RVP	Distillation temperatures, °F		
	lb	Percent: 10	50	90
Winter 1966-67	11.8	110	200	338
Winter 1967-68	12.0	108	199	335
Premium-price gasoline				
Winter 1966-67	11.8	111	210	323
Winter 1967-68	12.1	108	208	320

Differences are greater for fuels sold in districts in the northern areas of the country.

Included in table 5 are data for three other grades of motor gasoline as follows:

	Third grade	Intermediate grade	Super-premium
Brands	2	4	2
Items	15	14	10
Samples	94	81	10

Analyses for third grade motor gasoline were shown in Bureau of Mines survey reports during the late thirties and early forties. Tabulating data for this grade was resumed in the survey of summer 1963, and data for the intermediate grade fuels were included in the same survey. Super-premium motor gasolines have been represented in the survey reports since summer 1956, but the samples and brands have decreased greatly since the survey of winter 1960-61.

TERMS, TABLES, AND FIGURES

Terms used in the surveys have the following meanings:

District: The designation of a marketing area for collecting samples and data. The present arrangement of 17 districts, developed by the CFR Committee, 1/ was selected with reference to the specifications on motor gasolines, refinery locations, population centers, and arteries of commerce such as navigable rivers. The States or parts of States in each district are indicated in the headings of table 3 and are shown in figure 5.

Brand: The gasoline sold in a given price group under a given trade name.

Item: The index number assigned to a given brand in a given district. The data for each item represent the average of those submitted for that brand in that district. The number of samples represented follows the item number.

Sample: The individual supply of gasoline obtained at the service station and analyzed in the laboratory.

Table 3 presents by districts data for gravity, sulfur, gum, lead, research- and motor-method octane numbers, Reid vapor pressure, and distillation characteristics of the motor fuels collected. The tests were made according to procedures standardized by the American Society for Testing and Materials. 2/

Corrosion test results are not included in the district tables as all the reported figures are "1," according to the corrosion scale given in table 1 of ASTM D130-56. 2/

1/ Coordinating Fuel and Equipment Research Committee (formerly the Coordinating Fuel Research Committee) of the Coordinating Research Council, Inc. From 1935 to 1948 the motor-gasoline surveys were conducted under a cooperative agreement between the Coordinating Research Council and the Bureau of Mines.

2/ American Society for Testing and Materials, 1968 Book of ASTM Standards, Part 17, Petroleum Products -- Fuels; Solvents; Burner Fuel Oils; Lubricating Oils; Cutting Oils; Lubricating Greases; Hydraulic Fluids, Philadelphia, 1968, 1,139 pp.

Gum test data are reported to the nearest whole figure. The distillation temperatures, corrected to barometric pressure at sea level, are on the percent evaporated basis.

Average values appear at the foot of the data columns in table 3 for the respective grades of fuel shown in each district. These values are arithmetical averages of the data shown for the items and were computed without reference to the total number of samples represented.

The district averages from table 3 are assembled in table 4. The third column in table 4 headed "Items (brands)" indicates the number of brands in the districts whose averages are here summarized. The figures at the foot of each column of data are national averages based on 17 districts.

Table 5 shows data, from their respective districts, for third grade, intermediate grade, and super-premium motor gasolines.

Figures 1 and 2 illustrate trends in the national averages of certain properties of regular- and premium-price gasolines, respectively, since summer 1946. Averages for the winter surveys are plotted on the lines representing the years and for the summer surveys between the lines. Octane-number points are connected for successive surveys, but those for Reid vapor pressure and distillation temperatures are connected by season and appear as two lines on each chart. Charts showing plots of these properties from 1935 (except winter 1941-42 and summer 1942) may be seen in the survey report on motor gasolines for winter 1964-65 and in reports preceding that issue. 3/

Figures 3 and 4 illustrate distribution (frequency) of octane values by numbers of samples for all grades of fuel represented. Each bar represents one-half octane number.

The districts, locations, and numbers of samples of gasoline represented are listed in table 8 and shown on the map, figure 5, facing the table. The locations are named for the principal cities in the respective vicinities, and include suburbs and neighboring communities. The area of the circle at each location is proportional to the number of samples obtained. The segments of the large circle in the lower left corner, drawn to the same scale, represent the numbers of samples from the different districts. The summary at the end of table 8 lists by district the number of locations, samples, and the percentages of the latter based on the total reported.

3/ Blade, O. C., Motor Gasolines, Winter 1964-65. Bureau of Mines Petroleum Products Survey No. 40, 38 pp. (in cooperation with the American Petroleum Institute).

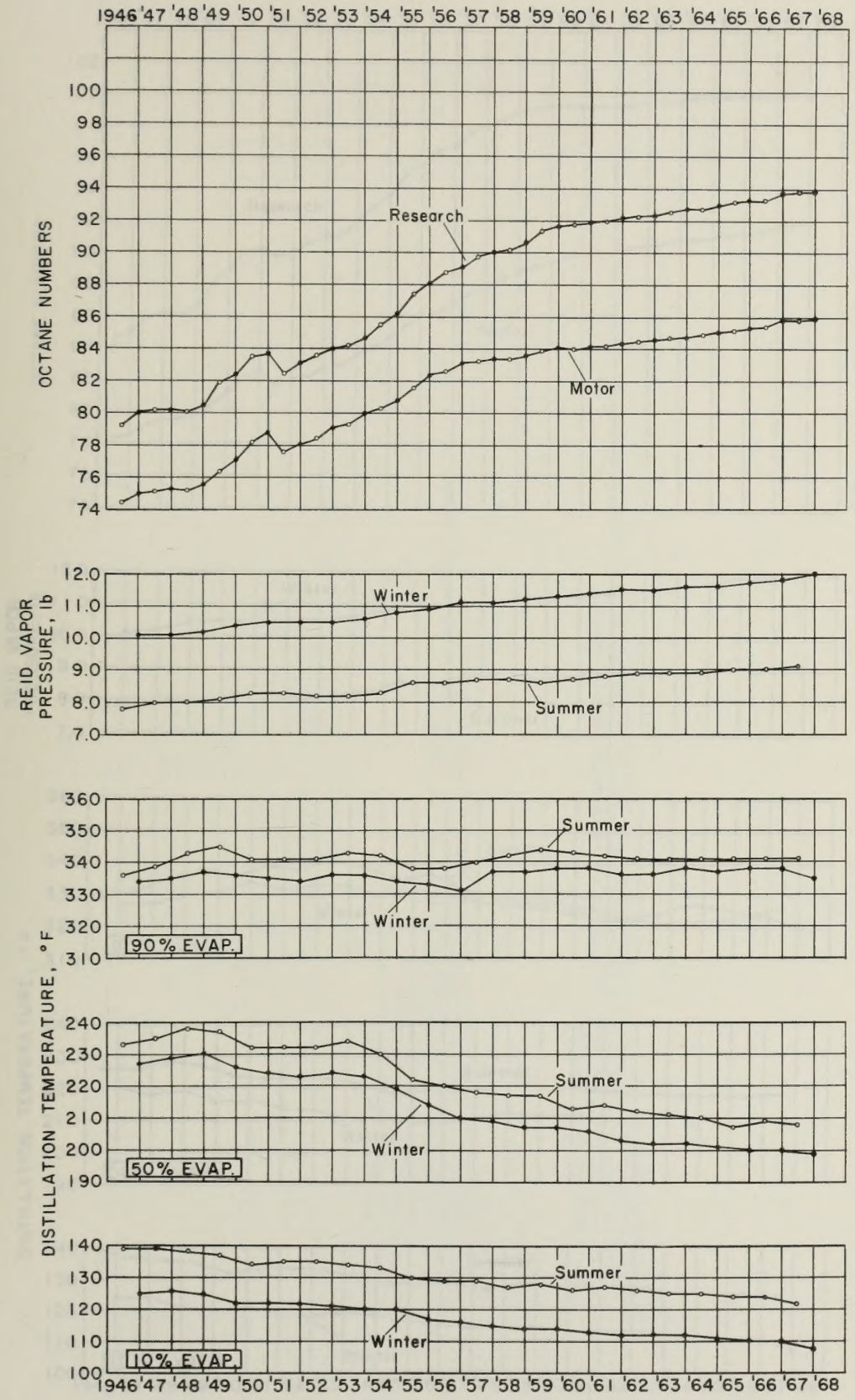
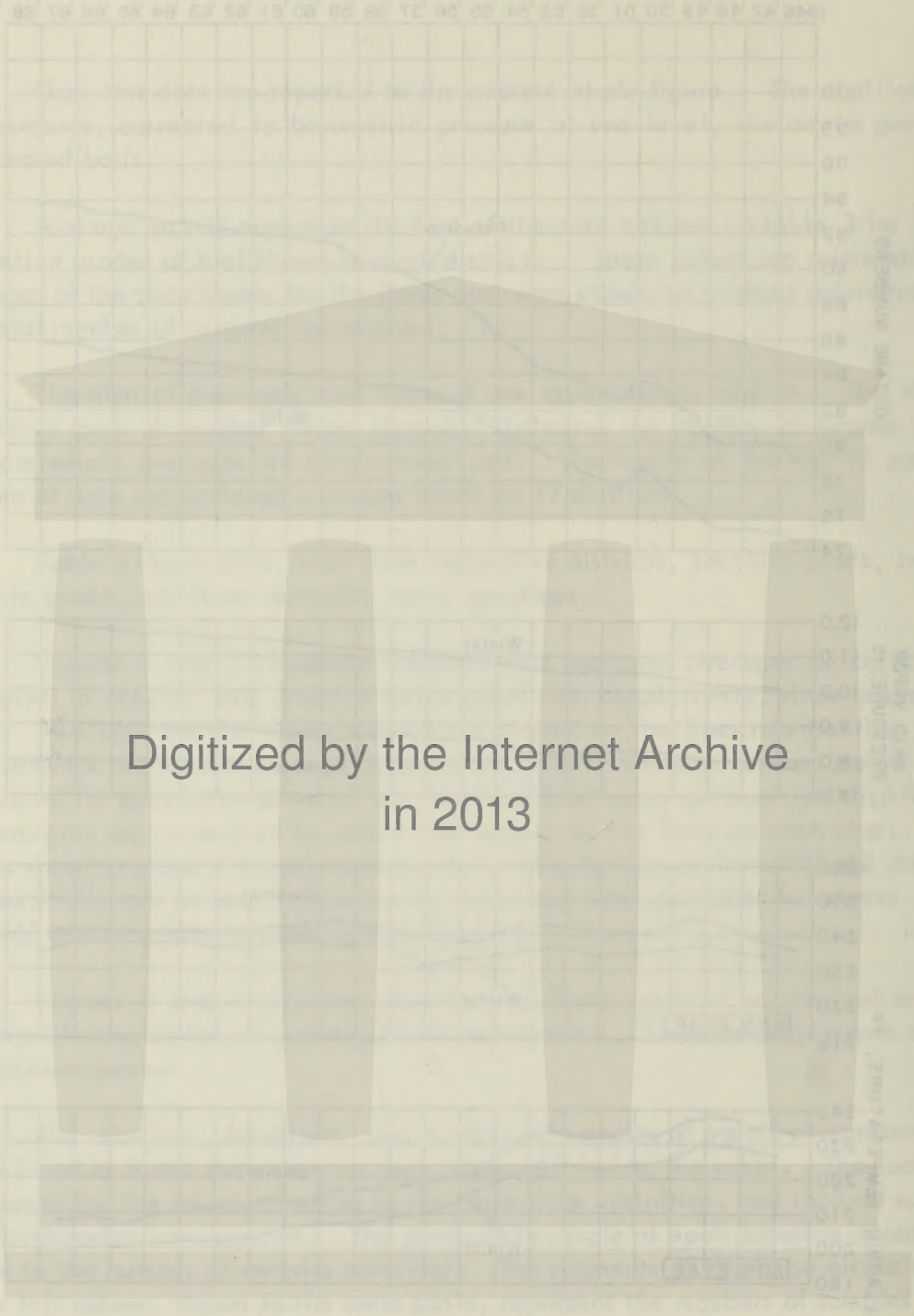


FIGURE 1.—Trends of Certain Characteristics of Regular-Price Gasolines.



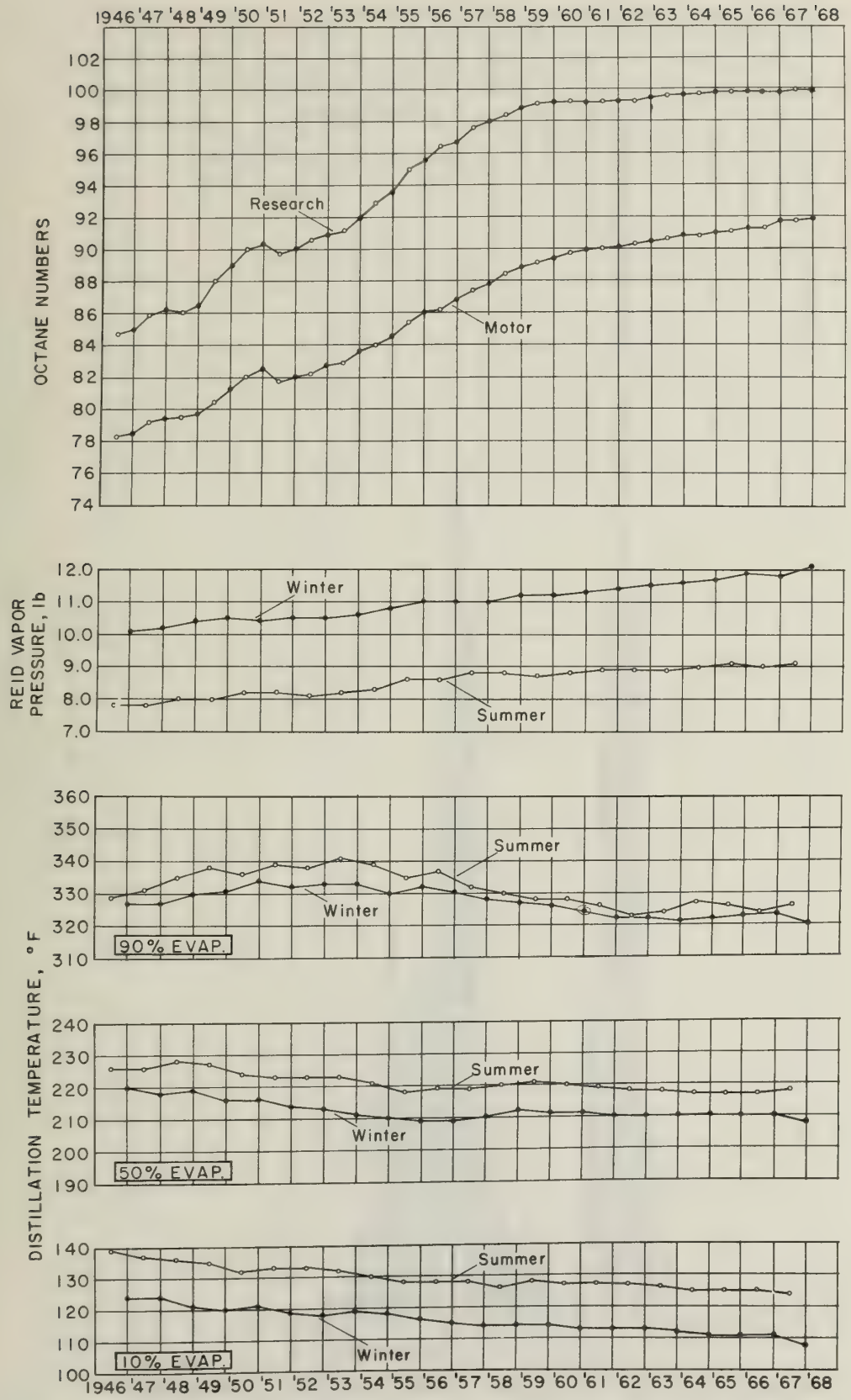


FIGURE 2.—Trends of Certain Characteristics of Premium-Price Gasolines.

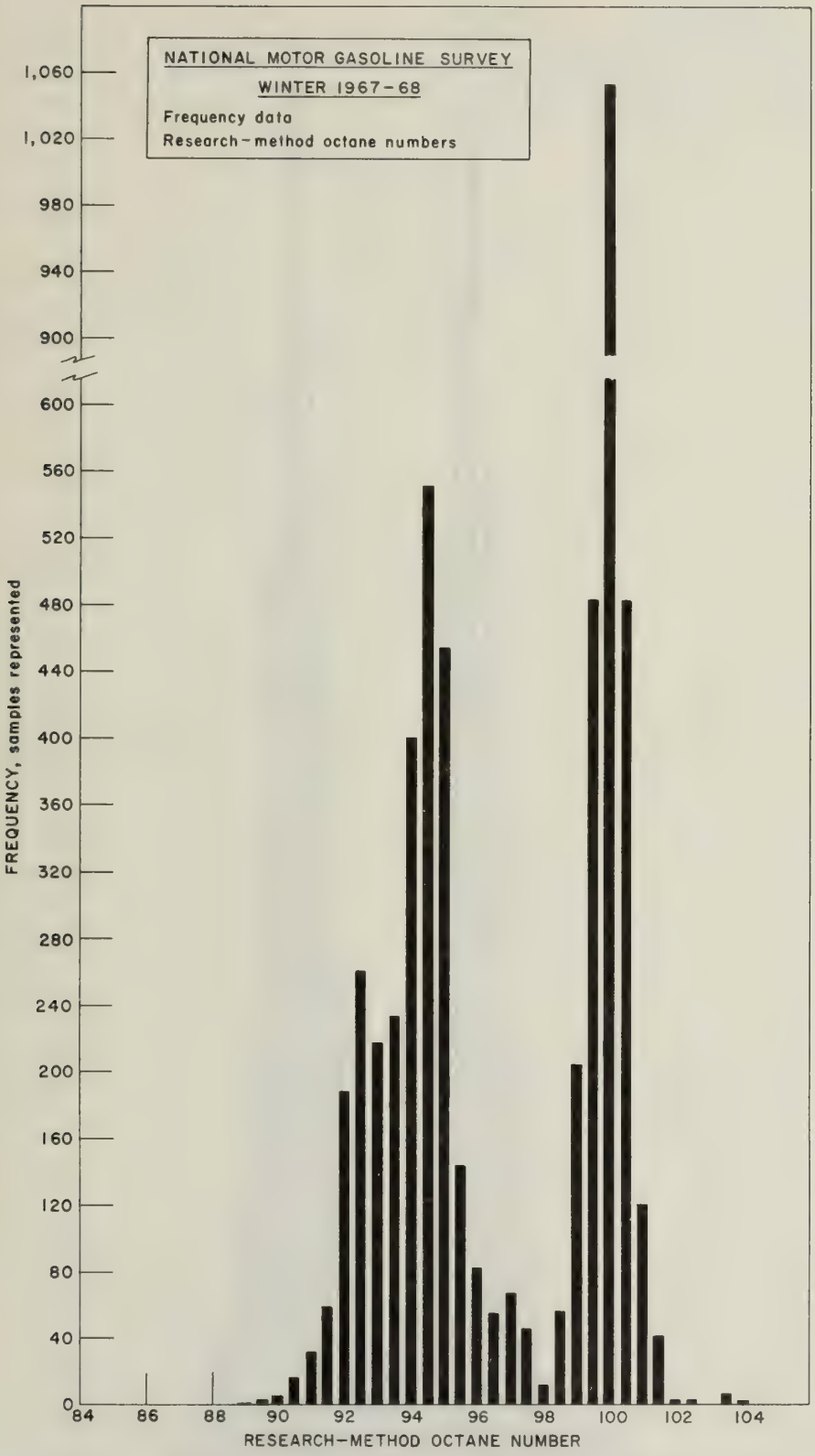


FIGURE 3.—Distribution of Research-Method Octane Numbers.

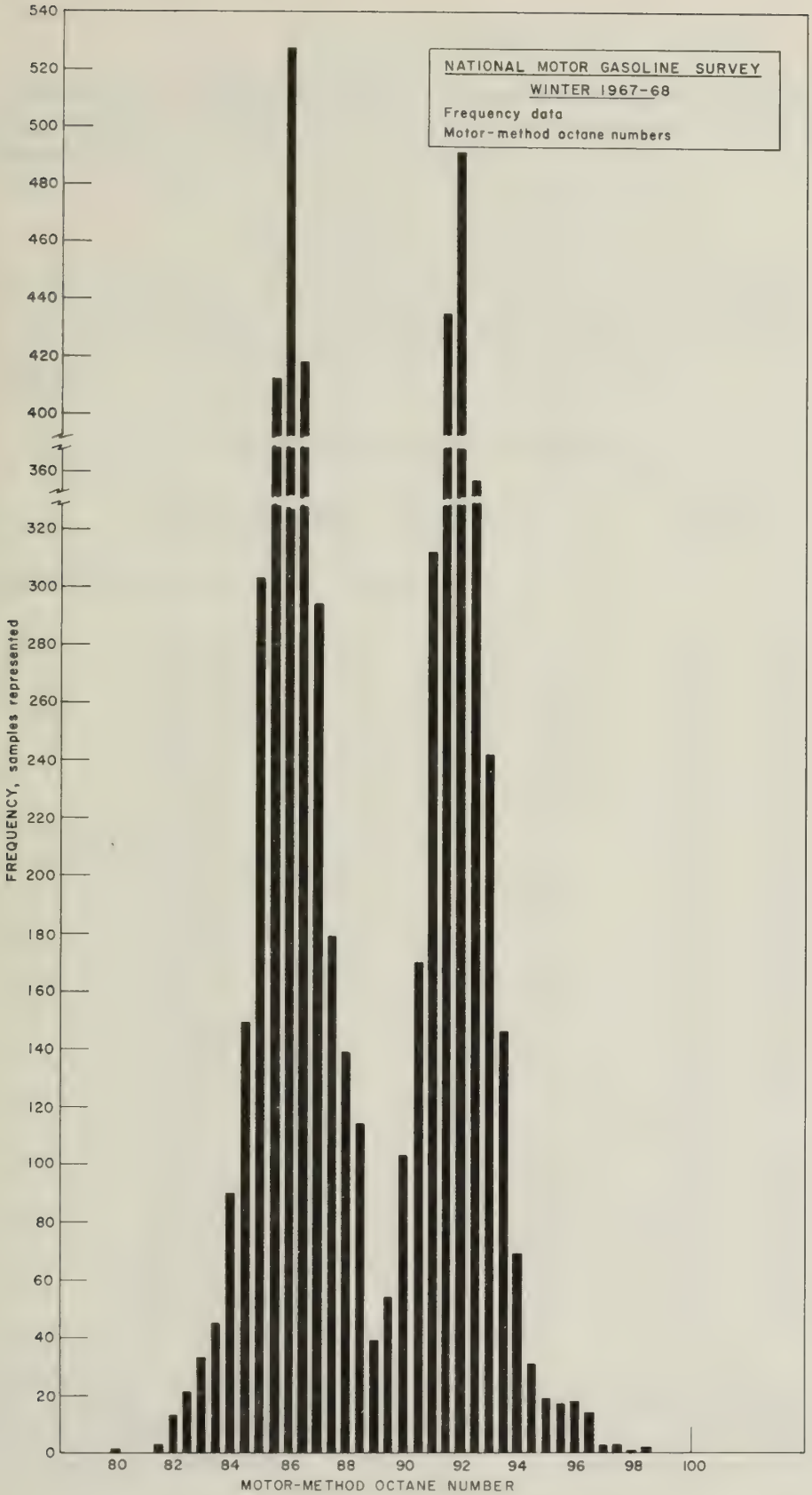


FIGURE 4.–Distribution of Motor-Method Octane Numbers.

In tables 6 and 7 are tabulated by whole octane ratings the cumulative percentages of samples of all grades for each district by the research- and motor-methods, respectively.

SIGNIFICANCE OF DATA

This report does not discuss the significance of the data presented. Reference may be made to the ASTM specification 4/ for motor gasoline and its appendix, "Significance of ASTM Specifications for Motor Gasoline," at a technical library.

LIST OF MOTOR-GASOLINE SURVEY REPORTS, 1958-68

Author	Season and Year	Report No.	Published	Pages
In cooperation with the American Petroleum Institute				
Blade, O. C.	Summer 1957	PPS No. 3	Jan. 1958	33
Do.	Winter 1957-58	PPS No. 5	June 1958	33
Do.	Summer 1958	PPS No. 8	Jan. 1959	33
Do.	Winter 1958-59	PPS No. 10	June 1959	33
Do.	Summer 1959	PPS No. 12	Jan. 1960	31
Do.	Winter 1959-60	PPS No. 15	June 1960	33
Do.	Summer 1960	PPS No. 17	Dec. 1960	34
Do.	Winter 1960-61	PPS No. 20	June 1961	34
Do.	Summer 1961	PPS No. 22	Jan. 1962	32
Do.	Winter 1961-62	PPS No. 25	June 1962	33
Do.	Summer 1962	PPS No. 27	Jan. 1963	32
Do.	Winter 1962-63	PPS No. 30	June 1963	32
Do.	Summer 1963	PPS No. 33	Jan. 1964	35
Do.	Winter 1963-64	PPS No. 35	June 1964	40
Do.	Summer 1964	PPS No. 37	Dec. 1964	40
Do.	Winter 1964-65	PPS No. 40	July 1965	38
Do.	Summer 1965	PPS No. 43	Jan. 1966	39
Do.	Winter 1965-66	PPS No. 45	June 1966	38
Do.	Summer 1966	PPS No. 48	Dec. 1966	38
Do.	Winter 1966-67	PPS No. 50	June 1967	38
Do.	Summer 1967	PPS No. 53	Dec. 1967	38
Do.	Winter 1967-68	This report		

4/ American Society for Testing and Materials, Tentative Specifications for Gasoline (D439-67T): 1968 Book of ASTM Standards, Part 17 (see footnote 2), pp. 178-183.

TABLE 1. - Summary of values, motor gasoline survey, winter 1967-68

Test	ASTM method	Regular-price gasoline Average	Premium-price gasoline Average
Gravity---------- ° API	D287	62.9	62.9
Corrosion ---------- No.	D130	1	1
Sulfur content -------- wt percent	D1266	0.041	0.023
Gum ---------- mg per 100 ml	D381	1	1
Lead ---------- g per gal	D526	2.10	2.72
Octane number, Research --------	D908	93.8	99.9
Octane number, Motor ----------	D357	85.9	91.9
Reid vapor pressure ---------- lb	D323	12.0	12.1
Distillation test on evaporated basis	D86		
Initial boiling point ------ ° F		84	84
5 percent ----------		96	94
10 ----------		108	108
20 ----------		129	130
30 ----------		151	156
50 ----------		199	208
70 ----------		255	251
90 ----------		335	320
95 ----------		368	352
End Point ----------		411	401
Residue ---------- vol percent		0.9	0.9
Distillation loss ----------		2.2	2.3

TABLE 2. - Summary of values, motor gasoline survey, winter 1966-67

Test	ASTM method	Regular-price gasoline Average	Premium-price gasoline Average
Gravity---------- ° API	D287	62.7	62.7
Corrosion ---------- No.	D130	1	1
Sulfur content ------- wt percent	D1266	0.047	0.026
Gum----------mg per 100 ml	D381	2	1
Lead---------- g per gal	D526	2.13	2.75
Octane number, Research--------	D908	93.7	99.8
Octane number, Motor ----------	D357	85.9	91.7
Reid vapor pressure ---------- lb	D323	11.8	11.8
Distillation test on evaporated basis	D86		
Initial boiling point ---- ° F		86	86
5 percent ----------		97	97
10 ----------		110	111
20 ----------		130	133
30 ----------		152	158
50 ----------		200	210
70 ----------		257	254
90 ----------		338	323
95 ----------		370	354
End point ----------		412	403
Residue -------- vol percent		0.9	0.9
Distillation loss ----------		2.1	2.2

District 1

TABLE 3. - Motor gasoline survey, winter 1967-68
(Average values of different brands)

Northeast area: Maine, Massachusetts, New Hampshire, Vermont, and northern New York

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
1	4	62.9	0.027	2	1.65	95.1	85.5	12.6	78	89	103	124	147	194	248	351	380	416	0.8	2.2
2	5	64.0	.027	1	2.24	94.9	86.9	12.8	79	87	102	125	147	195	259	340	381	407	.9	2.3
3	5	60.7	.044	1	2.15	95.2	86.8	12.1	80	91	106	126	152	212	277	346	377	415	.9	2.1
4	4	62.5	.022	2	1.96	94.9	87.6	13.7	80	96	100	121	147	205	262	349	388	423	.9	3.6
5	6	62.9	.033	1	2.12	94.6	87.0	13.1	78	88	101	121	142	191	249	330	364	402	.9	2.9
6	3	62.9	-	-	-	95.8	85.9	11.4	89	101	113	132	152	197	264	344	371	419	1.0	2.3
7	3	62.2	.028	2	1.85	95.0	86.3	13.2	80	88	103	123	144	188	250	338	372	412	.9	3.2
8	6	64.5	.020	1	1.17	94.6	86.6	14.0	75	83	96	115	140	199	256	324	353	394	1.0	2.8
9	1	62.2	.111	2	1.34	96.5	84.4	12.8	76	81	102	124	145	197	266	349	382	412	1.0	4.0
10	3	60.6	.032	0	1.53	95.0	85.9	10.8	91	109	122	142	167	220	284	356	378	409	.8	1.2
11	2	61.7	.018	1	1.94	94.9	86.6	11.9	81	89	103	127	149	203	258	331	355	401	1.1	2.4
12	7	64.9	.048	2	2.26	94.9	86.5	12.4	78	88	101	119	138	185	249	333	360	400	1.0	2.4
13	3	63.7	.071	0	2.17	94.6	86.8	12.6	84	97	109	130	152	200	262	340	370	412	.6	2.4
14	4	63.1	.063	1	2.52	95.0	86.6	12.9	78	87	102	125	149	202	250	330	380	411	.8	2.8
AVERAGE		62.8	.042	1	1.92	95.1	86.4	12.6	81	91	105	125	148	199	260	340	372	410	.9	2.6
SAMPLES	56																			

Premium-price gasoline

15	3	60.0	0.045	2	2.22	100.8	91.3	12.2	79	88	103	128	155	209	253	318	348	392	0.8	3.0
16	3	66.7	-	-	-	100.3	92.6	11.6	89	100	111	129	149	202	240	303	347	412	1.1	1.8
17	6	59.8	.017	1	2.74	100.4	91.5	12.4	78	86	101	124	150	210	265	321	348	388	.9	2.8
18	4	63.0	.014	3	2.99	100.3	93.0	13.0	78	88	105	130	158	212	254	333	370	419	.9	2.6
19	5	64.5	.020	1	2.30	100.0	92.3	13.1	77	86	101	123	149	201	244	300	333	385	.8	2.5
20	5	60.5	.019	2	2.41	100.3	92.4	12.9	76	87	103	128	156	216	266	322	350	390	.8	2.5
21	4	59.3	.035	2	2.22	101.0	90.7	12.0	80	92	109	134	162	218	261	319	346	390	.9	2.1
22	4	63.0	.021	2	2.84	100.2	92.3	13.3	79	87	99	118	140	205	261	320	352	400	.8	2.8
23	3	61.6	.035	2	2.73	100.1	92.1	12.3	80	104	118	142	165	212	250	316	348	390	.8	1.2
24	7	62.8	.017	2	2.86	100.5	91.9	12.4	77	86	102	124	149	201	246	306	332	389	1.0	2.6
25	2	57.7	.024	1	2.32	101.1	91.9	13.2	79	86	107	134	161	215	262	317	337	377	1.0	3.0
26	3	61.9	.021	2	2.54	100.3	92.0	12.2	80	96	112	136	164	210	250	332	361	400	.7	1.3
27	1	61.0	.008	0	* .00	99.7	89.9	12.7	76	84	102	128	157	222	258	322	354	406	1.0	3.0
28	1	63.6	.040	0	2.32	101.4	90.3	11.8	80	88	105	127	156	216	263	317	338	379	1.0	3.0
29	6	69.7	.018	1	2.44	100.1	92.5	13.8	77	85	97	113	132	181	227	287	323	364	.9	2.7
AVERAGE		62.3	.024	2	2.53	100.4	91.8	12.6	79	90	105	128	154	209	253	316	346	392	.9	2.5
SAMPLES	57																			

† Research octane numbers above 100 determined by ASTM D1656. *Not included in average for lead.

District 2

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Mid-Atlantic Coast region: Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia, central and southern New York, and eastern Pennsylvania

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
30	9	62.8	0.022	2	1.86	94.9	86.9	12.6	80	92	105	126	147	197	258	333	361	402	0.7	1.9
31	17	62.9	.048	2	1.78	94.6	86.0	12.7	81	91	104	124	145	194	260	349	380	423	.9	2.8
32	24	62.3	.026	1	1.51	95.0	85.7	12.6	83	94	106	127	148	198	258	351	384	417	.8	2.2
33	3	62.6	.027	2	1.63	94.6	85.3	13.7	80	95	108	128	148	195	246	354	390	428	.4	2.6
34	26	63.2	.025	1	2.11	94.7	86.9	12.4	81	91	104	125	148	197	257	345	377	411	1.1	2.4
35	8	62.6	.037	1	2.35	95.3	86.5	13.1	82	97	108	129	152	202	263	339	367	395	.8	2.4
36	33	62.7	.037	1	1.55	94.8	86.0	13.8	78	86	101	124	149	201	259	333	360	405	1.0	3.7
37	26	62.1	.027	1	1.96	94.9	87.3	13.3	81	90	103	124	150	207	268	350	383	418	.9	2.3
38	28	61.8	.050	1	1.93	94.6	86.4	13.0	79	88	102	122	146	199	264	348	380	415	1.1	2.4
39	24	62.7	.048	1	2.12	94.9	86.2	12.6	83	93	107	128	151	200	251	329	366	406	.9	2.6
40	10	62.8	.041	1	1.80	94.8	86.3	12.5	83	95	107	127	146	191	255	346	377	416	.8	2.0
41	29	63.1	.032	1	1.66	94.9	85.9	11.8	82	93	106	125	145	194	253	332	364	402	1.0	2.1
42	3	62.7	-	-	1.66	94.9	85.4	12.7	87	100	114	136	157	204	257	356	390	426	.7	2.8
43	20	61.6	.041	1	1.21	95.6	85.6	12.4	81	93	106	127	149	200	264	347	371	410	.9	2.1
44	23	64.2	.067	1	1.69	96.0	85.4	12.2	84	96	106	123	139	180	240	331	366	408	.9	1.9
45	31	60.3	.041	1	1.64	94.6	86.4	12.1	81	92	105	126	151	211	281	349	381	419	1.1	2.4
46	11	64.9	.021	1	2.06	95.3	88.4	12.3	85	94	105	121	140	187	255	330	363	422	1.0	2.2
47	1	62.2	.027	1	1.72	95.0	87.0	12.5	86	98	112	134	145	204	263	336	364	398	1.1	1.9
48	14	60.9	.042	1	.92	95.1	85.6	12.4	81	92	105	125	148	203	266	343	369	404	.9	2.1
AVERAGE		62.5	.037	1	1.75	95.0	86.3	12.7	82	93	106	126	148	198	259	342	373	412	.9	2.4
SAMPLES	340																			

District 2 (Cont.)

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Mid-Atlantic Coast region: Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia, central and southern New York, and eastern Pennsylvania

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
49	3	62.0	-	-	3.07	101.0	91.8	13.2	89	106	122	146	168	216	264	340	370	410	0.9	2.1
50	30	63.7	0.023	1	2.66	100.1	91.5	12.2	81	91	104	125	149	202	252	314	345	399	1.0	2.3
51	10	61.3	.038	1	2.65	100.9	91.5	12.4	82	93	106	128	152	207	254	322	354	396	.8	1.9
52	24	61.5	.019	1	2.55	100.3	92.7	12.6	80	91	104	124	149	210	262	322	347	390	1.0	2.5
53	28	60.1	.022	1	2.48	99.8	91.6	12.7	80	90	103	123	146	209	267	330	358	407	1.0	2.4
54	24	63.1	.018	1	3.03	100.3	92.9	12.8	80	92	104	126	153	211	253	328	363	413	.9	2.2
55	33	67.7	.023	1	2.32	100.7	91.8	14.1	78	86	99	118	139	189	233	294	327	380	1.0	3.0
56	8	62.4	.037	1	2.58	100.5	91.0	13.0	83	95	109	133	161	216	258	317	341	380	.9	2.7
57	26	61.9	.015	1	2.55	100.3	92.2	12.4	81	92	105	126	151	211	260	324	354	397	1.0	2.5
58	3	62.2	.020	1	3.08	100.9	91.7	13.6	78	85	98	119	144	202	252	330	360	398	.6	2.4
59	24	61.7	.026	2	2.66	100.6	91.3	12.7	80	91	105	127	153	211	257	325	355	397	.9	2.3
60	17	59.3	.023	2	2.63	99.9	91.6	13.2	80	90	105	132	161	224	280	340	363	406	.9	3.0
61	9	64.0	.016	1	2.49	100.5	92.3	12.8	79	89	102	123	148	204	247	307	337	382	.7	2.2
62	14	60.8	.034	1	1.92	100.5	90.8	12.6	82	93	106	129	155	212	257	315	340	387	.9	2.5
63	1	57.2	.012	0	2.71	100.4	93.4	13.4	86	98	114	139	169	220	270	326	367	390	.9	3.6
64	12	66.0	.023	1	2.64	100.5	92.9	12.4	84	95	104	119	136	193	242	309	355	422	.9	1.9
65	32	64.4	.017	1	2.35	100.1	92.2	12.4	80	90	104	126	151	206	249	307	341	393	1.0	2.5
66	22	58.1	.012	1	* .00	100.3	90.3	12.5	82	92	106	132	166	224	253	309	337	379	.9	2.6
67	20	59.1	.037	1	1.78	101.2	90.5	12.7	81	92	106	130	158	217	261	315	337	376	.8	2.5
AVERAGE		61.9	.023	1	2.56	100.5	91.8	12.8	81	92	106	128	153	210	256	320	350	395	.9	2.5
SAMPLES	340																			

† Research octane numbers above 100 determined by ASTM D1656. * Not included in average for lead.

District 3

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Southeast area: North Carolina, South Carolina, Georgia, Florida, Alabama, and eastern Tennessee

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
68	10	62.6	0.032	1	2.22	94.5	86.6	11.4	83	95	109	130	153	200	256	343	375	414	0.9	1.7
69	24	63.6	.028	1	2.24	93.8	86.4	11.3	88	101	114	133	153	196	251	336	372	411	1.0	1.7
70	37	62.3	.032	2	1.94	94.7	85.8	11.1	87	98	112	131	152	199	255	332	361	397	1.0	2.0
71	6	60.3	.013	1	1.91	94.7	86.5	10.6	87	102	118	144	167	212	262	333	361	411	.9	1.4
72	21	63.6	.034	3	2.00	94.2	87.3	11.3	88	100	112	130	150	194	254	330	362	411	1.0	2.0
73	9	62.9	.028	2	2.06	94.4	86.2	11.7	85	96	109	130	153	202	248	328	359	399	.9	1.9
74	22	63.5	.029	1	2.33	93.8	86.9	11.5	85	97	111	129	149	194	249	337	372	410	1.0	1.9
75	20	61.9	.024	1	1.49	94.1	86.1	11.8	87	98	112	134	156	201	249	341	379	421	1.0	2.2
76	26	63.1	.028	1	2.40	94.0	86.6	12.0	85	94	107	127	149	197	249	329	362	405	1.0	2.2
77	3	62.8	-	-	2.03	94.2	86.3	12.8	84	94	108	130	152	199	250	342	375	414	1.0	2.5
78	20	63.1	.024	1	1.98	94.4	86.4	12.8	83	92	107	129	152	198	252	351	383	413	.9	2.5
79	31	61.3	.049	1	2.69	94.0	86.8	11.0	86	98	112	133	156	206	263	330	362	408	1.0	1.9
80	6	60.7	.035	1	2.20	95.0	86.7	10.8	92	106	121	144	167	221	274	342	373	413	.9	1.6
81	13	62.5	.024	1	2.12	94.2	86.0	11.6	86	100	112	133	155	204	267	356	387	428	.8	1.7
82	3	62.7	.042	1	2.21	94.2	86.0	12.7	86	101	112	132	154	202	260	344	378	418	.8	2.2
83	8	61.8	.058	1	2.88	95.2	86.4	11.3	87	99	113	136	160	211	261	333	369	410	.9	2.2
84	1	-	-	-	-	93.6	85.4	12.4	76	76	98	125	152	199	242	344	384	421	1.0	5.0
85	17	64.1	.037	1	1.91	95.7	85.3	11.2	84	97	107	123	140	178	229	320	356	396	1.0	1.9
86	1	59.6	.070	0	1.77	95.3	84.8	11.2	86	99	114	136	159	209	260	347	382	422	1.0	2.0
AVERAGE		62.4	.035	1	2.13	94.4	86.2	11.6	86	97	111	132	154	201	254	338	371	412	.9	2.1
SAMPLES	278																			

District 3 (Cont.)

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Southeast area: North Carolina, South Carolina, Georgia, Florida, Alabama, and eastern Tennessee

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, †ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)									End point	Percent
									IBP	Percent evaporated 5	10	20	30	50	70	90	95		Resid.	Loss
87	3	63.9	-	-	3.12	100.3	92.4	12.2	80	88	98	116	138	190	234	296	330	372	1.2	0.8
88	26	66.4	0.018	1	3.21	100.0	92.8	12.0	84	94	107	127	148	196	238	300	334	385	1.0	2.2
89	21	59.0	.014	2	2.07	100.0	91.7	11.9	86	98	110	131	156	214	276	337	362	402	1.0	2.1
90	22	59.9	.019	1	2.60	100.0	91.6	11.7	82	94	107	129	154	212	268	337	366	404	1.0	2.0
91	9	63.4	.015	1	3.03	100.4	92.1	12.0	82	97	108	127	149	198	242	306	336	377	.9	1.4
92	21	65.3	.032	1	2.85	100.0	92.7	11.5	88	99	110	127	145	196	242	308	350	408	1.0	1.6
93	6	64.5	.013	1	2.88	100.3	92.4	11.4	83	95	107	126	146	193	237	298	331	380	1.0	1.6
94	37	61.8	.014	1	2.64	100.2	91.2	11.2	84	95	112	138	166	216	258	308	334	377	1.0	2.4
95	22	61.6	.018	1	2.88	100.1	91.5	11.6	84	96	109	130	153	211	266	339	369	411	1.0	1.8
96	10	62.8	.022	2	3.07	100.3	91.7	12.1	83	93	106	127	149	202	249	313	344	390	.9	1.8
97	17	57.3	.013	2	* .00	100.7	90.3	11.9	83	94	110	137	171	223	252	310	332	379	.9	2.4
98	1	-	-	-	-	100.0	91.3	12.6	81	89	102	123	149	216	283	338	366	399	1.3	2.7
99	7	61.2	.016	1	3.14	100.3	91.9	10.9	86	97	109	129	152	217	284	337	356	409	1.0	1.8
100	3	61.0	.014	2	3.04	100.7	91.8	12.5	82	92	106	128	153	211	256	322	350	394	.9	2.6
101	13	62.3	.017	2	3.13	100.6	92.2	11.6	84	97	110	134	157	207	250	321	356	403	.7	1.3
102	5	60.8	.025	2	3.04	100.3	91.9	9.9	88	102	118	144	171	217	252	318	353	406	.9	2.1
103	29	64.4	.026	1	3.07	100.1	93.1	11.2	86	98	111	131	153	202	243	305	338	386	1.0	1.8
104	19	61.0	.009	1	2.33	100.1	91.8	12.2	81	91	104	125	151	207	260	324	351	396	.9	2.3
105	1	61.8	.026	0	3.41	100.6	89.9	10.9	82	96	113	137	161	210	257	336	372	416	1.0	2.0
AVERAGE		62.1	.018	1	2.91	100.3	91.8	11.6	84	95	108	130	154	207	255	319	349	394	1.0	1.9
SAMPLES	272																			

† Research octane numbers above 100 determined by ASTM D1656. *Not included in average for lead.

District 4

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Appalachian area: Ohio, West Virginia, western New York, western Pennsylvania, eastern Kentucky, and a small portion of Maryland

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
106	3	64.4	-	-	2.75	93.6	88.5	12.5	84	95	109	130	153	204	254	320	344	388	0.8	2.2
107	14	63.3	0.022	1	2.35	94.4	86.8	13.2	77	88	104	125	148	198	258	346	380	424	.9	2.4
108	3	62.5	-	-	2.83	93.9	88.1	12.5	90	111	126	148	170	208	245	296	320	368	.5	1.5
109	16	63.1	.020	2	2.36	95.0	88.1	14.1	80	89	101	123	150	204	257	341	376	414	.8	2.8
110	9	64.1	-	-	-	95.1	87.6	11.4	89	100	109	124	142	189	256	337	370	425	1.1	2.2
111	11	63.7	.018	1	2.58	94.3	87.2	13.1	84	98	110	129	151	202	257	340	375	429	.8	2.0
112	8	62.4	.024	1	2.39	94.6	87.5	13.4	84	97	111	131	154	202	252	330	362	407	.7	1.8
113	5	64.6	.034	1	2.01	94.9	86.7	14.9	81	91	102	119	141	198	260	344	378	416	1.0	2.1
114	21	62.9	.027	1	1.51	94.4	85.7	11.6	83	96	108	126	145	192	252	328	361	398	1.0	1.7
115	9	63.1	.024	2	2.35	94.7	86.9	13.0	82	93	105	124	146	196	255	342	376	419	.9	2.0
116	3	62.3	-	-	2.14	93.8	87.9	13.3	83	100	114	134	156	201	250	306	330	372	.8	2.2
117	5	61.8	.046	1	1.91	94.9	86.3	12.2	89	102	118	140	162	205	257	334	369	412	1.0	2.8
118	21	60.9	.029	1	1.71	94.6	86.6	12.2	83	95	109	130	154	208	267	342	374	416	1.0	2.0
119	12	62.9	.024	2	2.03	94.7	86.5	12.6	82	93	106	126	148	201	261	349	385	427	.8	2.0
120	14	62.7	.023	1	1.95	95.1	86.9	14.5	79	89	101	124	145	196	261	344	377	423	.9	3.0
121	3	62.0	-	-	2.78	94.3	88.1	14.0	85	94	110	139	168	218	262	322	346	380	1.0	3.0
122	18	61.4	.023	4	1.74	94.8	86.7	12.5	81	94	107	127	150	201	262	338	373	411	1.0	2.1
123	3	62.6	.034	1	1.25	94.2	85.5	12.8	82	100	114	136	161	199	237	336	379	424	.7	1.3
124	9	62.6	.034	2	1.92	95.3	85.8	12.0	88	100	110	128	157	197	251	332	366	409	1.0	2.2
125	16	62.7	.030	1	2.01	94.4	86.7	13.3	80	92	106	125	147	199	257	334	364	405	.8	2.8
126	2	60.0	-	-	2.14	95.1	86.2	-	-	-	-	-	-	-	-	-	-	-	-	-
127	1	64.1	.030	1	1.77	95.2	86.5	13.8	76	81	91	107	130	188	259	338	370	416	1.0	3.0
AVERAGE		62.7	.028	1	2.12	94.6	86.9	13.0	83	95	108	128	151	200	256	333	365	409	.9	2.2
SAMPLES	206																			

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Appalachian area: Ohio, West Virginia, western New York, western Pennsylvania, eastern Kentucky, and a small portion of Maryland

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
128	9	64.8	0.012	2	2.67	100.0	92.3	12.8	83	96	111	135	161	209	247	320	356	403	0.8	2.3
129	21	62.9	.022	2	2.86	99.8	91.1	11.6	82	95	109	132	157	208	255	320	351	391	1.1	1.9
130	5	66.7	.024	2	3.02	99.6	92.5	14.3	82	90	104	126	152	207	243	316	360	413	.7	2.8
131	8	66.6	.016	1	2.56	100.1	93.3	13.7	81	92	105	128	154	204	239	306	343	406	.7	2.5
132	11	64.9	.018	1	3.25	100.2	93.0	12.9	84	97	112	137	165	212	252	335	371	408	.7	2.5
133	9	64.7	-	-	-	100.1	92.7	12.3	87	97	106	123	144	200	248	321	353	415	1.0	1.9
134	16	63.8	.013	2	3.18	100.2	93.4	13.3	82	92	105	126	151	213	259	325	356	406	.8	2.3
135	3	60.1	-	-	3.38	99.8	93.0	13.5	87	104	118	136	158	202	248	310	333	376	.8	1.7
136	15	67.8	.014	1	3.27	100.1	92.7	12.9	78	88	103	123	144	189	234	308	344	391	1.1	2.7
137	3	59.5	-	-	3.08	99.2	92.9	13.8	76	84	100	122	145	200	253	318	343	380	.8	3.2
138	1	64.6	.008	1	2.75	100.0	92.7	13.0	83	89	102	124	154	212	250	316	356	413	1.0	3.0
139	2	66.0	-	-	3.10	101.0	93.3	-	-	-	-	-	-	-	-	-	-	-	-	-
140	16	61.8	.017	1	2.69	99.7	92.6	13.2	82	91	107	130	155	206	252	324	354	398	.9	2.9
141	9	59.1	.009	1	* .00	99.9	89.8	12.6	84	94	104	125	155	215	246	300	328	361	.8	2.3
142	3	60.3	.015	1	2.13	100.3	91.8	12.8	78	90	102	122	145	206	274	334	352	412	.6	1.9
143	17	62.0	.015	4	2.64	100.2	92.2	12.6	81	92	110	134	162	214	256	328	364	409	1.0	2.5
144	3	59.4	-	-	3.07	99.9	93.3	12.8	80	95	107	126	150	203	250	316	346	386	.8	1.7
145	13	63.1	.015	1	2.41	100.1	92.1	14.8	80	88	102	125	150	203	250	319	349	401	.8	3.3
146	12	64.3	.018	2	2.86	99.9	92.1	12.3	81	92	106	127	152	208	258	334	367	406	.9	2.2
147	21	65.6	.019	1	2.37	100.2	92.2	12.5	83	95	110	131	155	203	243	312	347	400	.9	2.1
148	5	60.2	.005	1	2.10	100.0	93.5	12.2	86	99	112	136	163	219	268	327	350	396	.9	1.9
149	3	60.0	-	-	3.12	99.9	93.0	14.0	86	100	112	130	152	196	248	309	334	375	.7	1.3
AVERAGE		63.1	.015	2	2.83	100.0	92.5	13.0	82	93	107	128	154	206	251	319	350	397	.8	2.3
SAMPLES	205																			

† Research octane numbers above 100 determined by ASTM D1656. * Not included in average for lead.

District 5

Michigan

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
150	3	58.5	0.052	2	3.26	95.5	85.7	10.8	90	110	124	144	164	206	248	308	336	390	0.8	1.2
151	11	63.8	.095	2	2.89	95.7	85.2	12.4	82	92	105	126	149	198	248	314	341	384	.8	2.1
152	3	64.2	.028	2	2.28	95.1	86.9	14.0	76	88	100	118	140	189	247	329	364	412	.6	1.4
153	5	63.0	.020	1	2.38	94.7	87.8	13.7	78	85	99	120	146	201	256	343	376	417	.7	3.3
154	4	62.7	.077	2	2.56	94.8	85.9	13.0	86	101	114	134	157	205	258	342	379	426	.7	1.8
155	11	65.8	.019	1	2.29	94.1	87.2	13.0	83	92	105	124	145	192	243	318	350	395	.8	2.3
156	5	64.6	.037	1	2.70	95.0	86.7	14.6	80	88	98	116	139	191	248	330	366	417	.7	2.3
157	1	65.1	.043	0	2.32	95.0	86.2	14.5	74	80	94	113	135	191	252	334	368	406	1.0	3.0
158	12	63.3	.039	1	2.10	94.7	86.5	13.2	82	90	104	125	148	197	253	333	366	409	.8	2.5
159	14	62.1	.025	2	1.89	95.0	86.5	12.6	81	91	105	125	150	204	265	339	373	414	.9	2.3
160	3	-	-	-	-	96.0	88.5	13.8	82	90	102	124	153	209	260	346	382	421	.9	2.8
161	1	65.4	.044	1	2.35	94.9	86.0	13.8	72	76	92	111	133	188	252	331	370	406	1.0	4.0
162	3	63.7	.040	1	2.99	95.1	86.9	13.4	82	95	107	126	147	189	247	350	386	424	.5	2.5
163	2	63.0	-	-	2.63	94.7	86.7	13.9	80	90	104	124	148	202	259	342	373	422	.7	1.8
164	21	63.6	.032	2	3.06	95.0	85.7	11.9	84	96	110	130	152	198	250	323	353	396	.8	2.0
165	2	60.0	-	-	2.88	96.6	86.4	-	-	-	-	-	-	-	-	-	-	-	-	-
166	4	64.3	.043	2	2.56	94.7	86.6	13.6	81	89	102	121	142	190	250	340	378	424	1.0	2.3
167	3	67.1	.038	1	2.71	94.0	87.3	12.3	84	91	103	121	134	162	208	312	348	404	.5	1.5
168	8	63.1	.028	2	2.13	94.6	86.0	13.1	82	91	105	122	144	196	255	339	374	417	.7	2.4
AVERAGE		63.5	.041	1	2.55	95.0	86.6	13.2	81	91	104	124	146	195	250	332	366	410	.8	2.3
SAMPLES	116																			

District 5 (Cont.)

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Michigan

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
169	3	-	-	-	-	99.7	92.2	12.9	85	89	101	122	148	210	258	330	367	402	1.1	2.9
170	14	62.3	0.023	2	2.23	100.0	91.6	12.5	82	91	109	136	168	219	254	318	352	405	1.0	2.9
171	12	66.1	.020	1	2.16	99.9	91.9	12.8	82	92	108	131	157	205	240	312	350	405	.9	2.2
172	1	66.5	.039	0	3.12	99.8	90.3	14.1	70	74	92	118	144	200	240	318	362	410	1.0	4.0
173	5	66.3	.043	2	3.01	99.9	91.9	14.9	79	87	97	115	143	203	244	334	378	437	.4	2.6
174	11	63.4	.007	1	2.38	99.2	92.6	12.2	84	94	107	130	155	204	246	314	343	387	.7	2.4
175	4	66.1	.036	2	2.65	100.2	91.8	12.4	84	97	110	132	157	206	251	327	366	419	.4	2.1
176	5	64.0	.012	1	3.23	100.4	93.7	13.6	77	85	98	119	144	209	256	326	360	408	.7	2.7
177	3	62.8	.021	1	2.27	100.1	92.9	12.7	78	85	103	128	158	211	244	312	346	396	.9	3.1
178	11	65.1	.023	1	2.98	99.3	91.7	12.5	80	90	104	125	148	196	233	298	330	386	.8	2.3
179	3	62.3	-	-	3.28	99.4	91.0	10.3	90	104	120	144	166	208	249	315	352	400	.7	.8
180	2	64.9	-	-	3.05	101.0	91.3	-	-	-	-	-	-	-	-	-	-	-	-	-
181	22	60.1	.022	2	3.24	99.8	90.7	11.4	85	95	114	142	171	215	251	311	347	401	.9	2.7
182	2	67.0	-	-	2.54	100.6	91.7	13.2	82	91	106	129	152	201	243	322	360	416	.6	2.4
183	3	66.8	.036	2	2.49	100.2	92.4	14.2	82	98	114	140	170	214	248	342	380	410	.8	1.7
184	1	66.7	.039	1	3.30	100.5	90.8	13.7	74	74	93	127	144	201	239	315	360	412	1.0	5.0
185	4	64.7	.015	1	2.40	100.1	92.2	13.8	81	88	104	128	157	212	250	318	355	401	.8	3.1
186	4	62.6	.021	2	3.20	99.6	93.2	13.3	80	90	103	122	153	201	250	322	353	411	.8	2.3
187	6	65.1	.022	1	2.61	100.2	91.8	12.9	82	92	106	128	155	208	249	330	363	407	.8	2.5
AVERAGE		64.6	.025	1	2.79	100.0	91.9	13.0	81	90	105	129	155	207	247	320	357	406	.8	2.7
SAMPLES	118																			

† Research octane numbers above 100 determined by ASTM D1656.

District 6

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

North Illinois area: Northern Indiana, northern Illinois, eastern Iowa, and Wisconsin

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
188	1	62.6	0.042	2	2.32	94.0	85.0	11.8	85	96	106	123	144	195	257	340	374	428	1.0	2.0
189	16	63.8	.074	1	2.61	95.2	85.5	12.3	83	92	105	125	148	197	247	315	346	390	.9	2.2
190	7	62.9	.046	1	2.12	95.0	86.4	12.7	83	95	105	124	147	202	260	334	364	412	1.0	1.9
191	5	67.7	.029	1	2.21	94.2	86.3	12.5	85	98	105	116	127	156	206	323	360	403	.8	1.3
192	13	63.9	.028	1	2.28	95.0	87.0	13.4	81	89	98	116	138	192	253	331	363	411	1.0	2.0
193	4	63.4	.026	2	2.71	95.1	87.1	12.5	85	97	104	120	140	192	257	345	378	422	1.0	2.3
194	7	63.8	.030	1	2.27	95.0	86.8	13.3	83	90	100	118	140	190	250	335	370	415	.8	2.7
195	1	62.0	.016	1	1.82	93.2	86.5	12.0	80	92	103	124	151	202	256	342	374	420	1.0	2.0
196	7	62.6	.060	1	2.66	94.7	86.2	13.0	83	89	102	122	145	198	255	339	376	410	1.0	2.9
197	8	62.6	.062	2	2.57	94.8	86.6	12.9	83	92	102	121	144	197	253	336	370	410	.8	2.5
198	4	64.3	-	1	2.36	95.2	87.5	12.9	83	92	104	124	148	202	255	336	367	416	.9	2.1
199	13	64.5	.027	1	2.17	95.2	87.1	12.7	83	92	101	117	136	187	251	331	364	408	1.0	2.1
200	7	62.9	.057	1	2.29	95.0	86.4	12.2	83	96	107	126	149	203	258	336	369	407	.9	2.0
201	4	63.5	.019	1	3.10	95.0	87.5	12.2	85	95	104	121	140	194	270	344	376	418	.9	2.2
202	13	65.0	.017	1	2.65	94.3	87.1	12.3	82	93	105	123	145	197	249	319	348	387	.9	1.8
203	3	63.2	.045	2	2.45	95.0	85.3	12.6	82	97	104	121	142	191	254	335	366	416	.7	1.3
204	17	63.3	.030	1	2.84	95.0	85.3	12.6	82	92	104	124	147	196	247	319	349	388	.8	2.6
205	5	63.1	.057	0	2.02	94.7	86.0	12.5	79	90	103	126	149	202	260	343	376	406	.8	1.7
AVERAGE		63.6	.039	1	2.41	94.8	86.4	12.6	83	93	103	122	143	194	252	334	366	409	.9	2.1
SAMPLES	135																			

District 6 (Cont.)

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

North Illinois area: Northern Indiana, northern Illinois, eastern Iowa, and Wisconsin

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										Percent	
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)												
									IBP	Percent evaporated									End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
206	7	63.7	-	1	2.84	100.8	93.4	11.9	83	92	104	125	149	212	255	325	359	408	1.0	1.7
207	8	66.0	0.032	1	2.67	100.0	92.2	13.0	81	93	103	123	150	202	244	321	358	410	.8	2.0
208	7	66.6	.030	1	2.56	100.3	92.2	12.9	81	90	101	122	146	198	240	325	365	409	1.0	2.2
209	1	63.2	.004	1	2.87	100.4	93.5	12.6	87	94	102	118	140	205	254	325	356	408	1.0	3.0
210	7	63.2	.012	1	2.48	99.5	92.1	13.4	81	87	100	123	150	207	249	318	352	396	1.0	3.4
211	4	64.2	.009	1	2.82	99.7	92.8	12.9	87	96	105	125	151	207	248	312	345	399	.9	2.6
212	13	62.6	.014	2	2.22	99.8	92.7	13.3	81	89	102	126	157	213	249	314	347	398	.9	2.8
213	10	62.9	.008	1	2.94	99.9	93.1	12.5	79	90	103	125	148	200	248	321	354	403	.9	2.3
214	7	62.9	.026	1	2.71	100.0	92.5	12.8	82	91	100	122	149	204	248	324	358	402	.8	3.0
215	16	63.7	.014	1	2.80	99.8	91.7	12.6	81	91	104	125	150	202	242	308	342	390	.9	2.5
216	1	63.2	.005	1	2.81	100.1	93.0	12.7	84	92	101	120	144	198	246	317	344	397	1.0	2.0
217	5	65.3	.037	0	2.63	99.5	91.8	12.4	79	94	104	126	153	207	248	328	365	412	.9	2.1
218	16	57.8	.016	1	3.01	99.5	90.9	12.0	84	93	111	140	172	217	249	307	340	399	.9	2.8
219	3	62.8	.022	1	2.71	99.3	92.1	11.6	84	102	114	136	161	208	246	312	344	396	1.0	1.0
220	13	65.3	.012	1	2.77	99.2	93.2	12.0	83	95	108	131	158	206	244	314	346	392	.8	2.3
221	4	65.0	.006	1	2.75	100.0	92.8	12.2	87	96	107	127	155	208	245	307	338	394	.9	2.4
222	7	63.1	.026	1	2.90	100.3	92.1	12.6	84	95	105	126	152	209	250	322	353	405	.9	2.1
223	13	65.6	.010	1	2.82	99.8	92.5	12.9	84	93	103	121	143	199	245	322	356	408	.9	2.1
AVERAGE		63.7	.017	1	2.74	99.9	92.5	12.6	83	93	104	126	152	206	247	318	351	401	.9	2.4
SAMPLES	142																			

District 7

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Central Mississippi area: Western Kentucky, southern Indiana, southern Illinois, and eastern Missouri

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
224	3	64.5	0.023	1	1.99	94.7	87.3	13.2	84	94	107	129	154	202	244	313	340	385	0.5	2.5
225	6	65.4	-	-	2.10	95.2	87.0	13.0	86	95	103	119	139	187	254	336	367	419	1.0	2.0
226	3	64.1	.027	3	3.26	94.3	87.4	12.3	83	100	114	135	155	198	256	344	386	428	.8	1.2
227	5	63.7	.031	3	2.70	94.6	87.1	13.2	83	96	110	131	154	202	258	348	382	424	.7	1.3
228	3	64.6	.016	3	2.88	94.7	87.7	12.5	80	95	108	128	152	199	250	330	362	408	.5	1.5
229	15	64.8	.040	3	2.40	94.6	85.4	11.8	80	93	105	124	144	186	237	307	335	374	1.0	1.8
230	3	62.7	.034	2	2.35	94.3	86.6	12.4	84	94	110	134	159	210	262	340	372	404	.7	1.8
231	3	63.9	.081	1	2.50	94.2	86.3	14.7	81	87	100	120	146	216	281	358	384	414	.9	4.1
232	3	62.3	.024	4	2.31	94.8	88.2	13.1	81	89	102	122	148	200	252	336	369	408	.7	2.3
233	2	63.0	-	-	2.11	94.2	86.3	12.0	83	93	105	123	137	195	255	335	365	428	1.0	2.0
234	9	64.2	.026	4	2.16	94.7	87.0	12.9	79	88	99	119	141	196	256	330	367	410	1.0	1.9
235	3	64.6	-	-	2.21	94.1	86.5	13.2	83	93	103	123	147	200	256	321	348	384	.5	1.5
236	3	63.1	.034	2	3.34	94.7	87.6	13.2	83	95	107	126	148	205	276	352	380	421	.9	2.1
237	12	62.4	.040	3	2.46	94.5	87.2	12.1	81	93	106	127	148	199	255	333	366	406	.9	1.7
238	11	63.8	.065	2	2.72	94.9	86.1	12.6	80	91	105	125	147	193	244	317	346	385	.9	2.4
239	8	63.8	-	-	2.79	95.0	86.7	12.2	81	91	104	125	150	201	253	325	358	398	1.0	1.9
240	3	62.3	-	-	1.94	94.3	85.7	12.2	86	97	107	124	147	199	260	330	356	402	.9	2.1
241	6	63.4	.030	2	3.15	95.0	87.4	13.4	82	93	104	122	141	200	273	355	389	422	.8	1.7
242	2	61.5	.026	3	3.01	94.3	87.8	12.3	88	109	127	155	181	228	274	327	348	385	.8	2.2
AVERAGE		63.6	.036	3	2.55	94.6	86.9	12.8	83	94	107	127	149	201	258	334	364	406	.8	2.0
SAMPLES	103																			

District 7 (Cont.)

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Central Mississippi area: Western Kentucky, southern Indiana, southern Illinois, and eastern Missouri

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, †ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
243	5	65.6	0.014	2	3.01	100.2	92.7	13.8	78	90	102	120	140	192	238	308	344	404	0.8	2.2
244	3	63.0	.028	3	3.48	100.5	92.6	12.7	80	100	112	134	160	214	260	332	364	416	.6	2.4
245	6	68.5	-	-	2.73	100.2	93.4	13.4	86	93	103	120	142	194	239	310	346	403	.9	2.2
246	3	68.6	.031	1	2.57	99.5	93.2	12.9	85	94	108	130	154	200	230	302	342	386	.7	2.3
247	2	66.0	.039	1	3.23	100.0	92.9	12.2	82	92	109	136	162	212	244	310	338	370	.7	2.3
248	6	65.6	.020	3	2.89	100.0	92.3	13.0	79	90	104	125	151	204	242	300	330	389	.7	2.4
249	3	65.6	-	-	2.96	99.4	92.6	12.5	86	93	106	125	147	200	241	318	353	400	.9	2.1
250	8	62.4	-	-	3.12	99.6	91.8	12.5	81	91	105	127	152	203	244	314	347	400	.8	2.3
251	11	63.4	.012	1	2.88	100.0	91.3	12.3	79	91	105	127	154	207	248	312	339	387	.9	2.4
252	12	63.4	.019	2	2.83	100.0	92.7	11.5	82	94	108	130	156	205	244	313	348	403	.8	2.1
253	3	65.6	.019	2	2.88	99.6	92.3	14.1	80	90	104	126	152	206	241	294	322	372	.6	1.9
254	3	62.0	-	-	2.57	98.9	92.2	13.2	79	90	105	130	161	216	248	303	338	378	1.0	2.0
255	10	63.2	.023	3	2.37	100.1	92.8	12.8	79	85	101	128	161	215	249	314	343	396	.9	3.1
256	2	59.9	-	-	2.93	100.0	93.9	12.6	81	91	104	129	159	219	256	315	340	383	.8	1.7
257	3	63.3	.013	1	3.18	100.4	92.9	13.0	80	92	106	127	153	213	258	330	362	396	.8	1.2
258	3	62.4	.015	2	2.95	100.0	92.5	13.5	84	96	112	135	162	212	255	320	350	404	.9	2.1
259	3	62.9	.019	3	2.46	100.2	92.3	13.1	80	94	106	126	154	210	256	336	366	408	.8	2.2
260	15	58.5	.013	2	2.62	99.8	91.0	12.2	79	89	106	135	168	219	254	300	324	374	1.0	2.6
261	3	62.3	.016	3	3.54	100.5	92.5	13.8	74	84	94	114	140	201	248	320	350	400	.6	2.9
AVERAGE		63.8	.020	2	2.91	99.9	92.5	12.9	81	92	105	128	154	207	247	313	345	393	.8	2.2
SAMPLES	104																			

† Research octane numbers above 100 determined by ASTM D1656.

District 8

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Lower Mississippi area: Mississippi, Louisiana, eastern and southern Arkansas, and western Tennessee

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
262	6	61.7	0.019	-	2.33	93.6	86.7	11.2	81	96	108	131	156	202	252	327	360	406	0.9	1.4
263	17	62.8	.022	1	2.06	93.9	86.8	11.8	86	98	110	131	154	202	258	343	374	413	.9	1.6
264	6	63.3	.061	0	2.33	94.4	86.3	12.9	80	93	104	124	147	201	267	360	392	427	1.1	2.0
265	3	63.0	.053	-	1.99	93.5	85.4	12.1	79	92	103	123	146	199	253	339	370	422	.9	1.6
266	16	65.2	.064	1	2.14	95.4	85.5	11.3	86	98	108	123	140	177	235	334	369	406	.9	1.5
267	8	61.8	.017	-	2.46	93.6	87.0	10.9	95	105	117	139	163	211	269	344	374	419	1.0	1.9
268	3	63.4	-	-	-	93.5	84.3	13.1	85	92	103	124	148	203	267	349	381	425	1.1	3.3
269	12	63.0	.025	0	1.85	94.7	86.2	12.5	86	97	109	130	153	199	251	353	384	413	1.0	2.2
270	14	60.9	.039	1	1.90	94.2	86.6	11.2	85	98	108	129	151	200	259	328	355	406	.8	1.2
271	6	63.4	.028	0	2.39	94.2	86.7	12.1	82	95	106	127	149	193	244	334	365	409	.8	1.5
272	3	66.9	.000	-	2.45	94.3	89.9	10.7	86	103	112	126	140	175	237	312	341	390	.7	1.3
273	17	63.6	.040	0	2.22	94.6	85.6	11.1	89	101	113	132	152	197	251	326	354	396	.8	1.6
274	13	62.8	.028	1	2.51	94.3	87.1	11.7	86	97	110	129	149	193	246	330	366	411	.9	2.0
275	4	62.5	.015	-	1.78	94.6	86.3	12.3	86	97	109	130	153	199	250	344	378	409	.9	1.7
276	6	63.7	.047	1	2.19	93.7	85.4	11.9	81	93	105	126	150	204	258	344	378	425	1.0	1.3
277	9	63.4	.031	1	2.73	94.2	87.6	11.2	81	96	105	124	140	194	245	327	359	409	.9	1.4
278	12	63.1	.054	0	2.06	93.6	85.9	11.6	83	96	107	126	146	192	248	332	364	407	.8	1.6
279	7	64.4	.058	0	2.31	94.2	86.2	12.2	83	99	109	126	145	191	245	330	364	413	.8	1.3
280	3	61.8	.028	-	1.34	94.2	85.5	11.5	80	94	110	133	155	200	241	336	380	420	.7	1.3
AVERAGE		63.2	.035	1	2.17	94.1	86.4	11.8	84	97	108	128	149	196	251	336	369	412	.9	1.7
SAMPLES	165																			

District 8 (Cont.)

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Lower Mississippi area: Mississippi, Louisiana, eastern and southern Arkansas, and western Tennessee

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, †ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
281	13	64.8	0.032	1	2.90	100.1	93.0	11.6	88	98	111	133	156	200	241	314	350	402	1.0	2.1
282	17	61.6	.013	1	2.82	100.3	91.5	11.4	86	96	110	133	159	210	252	305	330	379	1.0	1.8
283	3	62.5	.009	-	3.66	100.1	95.3	10.9	84	96	106	121	138	186	239	303	330	384	.7	1.3
284	6	63.6	.012	1	3.14	99.9	92.3	11.8	82	95	108	130	155	208	250	311	340	390	1.0	1.8
285	14	63.7	.027	1	2.98	100.0	93.4	11.1	83	98	110	130	151	195	244	311	341	389	.8	1.3
286	12	61.0	.010	1	2.39	100.1	91.7	12.9	86	93	105	126	153	211	263	324	352	396	1.1	1.9
287	3	64.3	-	-	-	100.0	90.5	12.6	87	95	107	130	159	218	260	341	374	425	.9	2.9
288	8	62.8	.014	-	3.06	99.9	93.1	10.9	87	100	114	138	163	210	251	328	360	402	.8	1.5
289	17	58.1	.005	2	* .00	100.5	90.4	11.6	81	95	108	134	169	229	260	315	338	376	.9	1.7
290	3	65.8	.044	-	2.60	99.9	91.3	12.5	78	94	107	132	156	219	260	346	376	419	1.0	1.5
291	6	61.0	.015	1	2.65	100.3	91.6	13.4	79	87	100	125	158	214	254	308	333	382	1.0	2.1
292	18	66.9	.013	0	2.96	99.9	93.1	12.3	82	93	105	125	147	195	232	292	328	381	.9	1.7
293	6	63.2	.017	-	3.11	99.9	92.2	11.3	82	96	110	134	158	202	240	313	349	395	.9	1.4
294	3	59.3	.007	-	1.94	100.2	91.4	12.4	80	94	104	122	142	188	260	356	364	428	.8	1.7
295	7	65.5	.044	0	2.80	99.9	92.2	11.8	83	96	110	132	161	211	246	328	367	412	.8	1.5
296	12	62.7	.032	1	2.58	99.9	91.9	11.8	80	91	104	124	150	204	253	332	359	405	1.0	1.4
297	9	63.8	.024	0	3.06	99.9	92.7	11.2	83	98	109	130	154	203	244	328	364	416	.8	1.5
298	6	64.2	.042	1	3.01	99.9	91.2	12.7	80	92	105	129	161	216	257	342	373	419	.8	1.9
299	5	60.7	.026	-	2.05	99.8	91.1	12.2	86	95	107	129	155	215	265	328	357	399	1.0	2.2
AVERAGE		62.9	.021	1	2.81	100.0	92.1	11.9	83	95	107	129	155	207	251	322	352	400	.9	1.7
SAMPLES	168																			

† Research octane numbers above 100 determined by ASTM D1656. * Not included in average for lead.

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

North Plains area: Minnesota, North Dakota, and South Dakota

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
300	10	62.9	0.078	0	1.88	92.3	83.7	10.9	87	94	110	136	162	217	275	355	364	435	1.0	3.6
301	7	67.4	.022	0	1.11	92.4	85.0	11.3	79	89	98	112	126	173	236	309	344	407	1.0	1.5
302	4	63.3	.041	2	2.30	93.2	84.7	10.4	83	92	105	125	150	205	259	335	364	413	1.1	2.2
303	4	63.2	.040	2	1.29	92.5	84.3	10.3	80	91	103	122	147	201	260	329	357	402	1.0	2.0
304	4	62.4	.080	1	2.08	92.7	84.2	10.4	82	93	105	126	151	207	266	336	364	413	1.0	1.8
305	3	60.4	.061	2	2.11	92.5	83.9	12.0	82	95	107	131	157	219	279	350	380	426	.9	1.1
306	12	67.0	.008	2	1.51	92.5	84.9	12.2	85	92	105	126	147	189	231	292	335	378	1.0	3.4
307	1	64.6	.078	1	2.65	92.8	85.2	8.4	84	93	103	122	145	190	234	322	364	410	1.0	2.0
308	10	65.3	.026	1	2.28	92.1	83.8	11.2	87	96	110	131	152	200	248	327	357	412	1.0	3.1
309	3	66.7	-	0	1.35	92.5	84.8	12.7	80	95	106	126	146	189	227	284	311	374	1.0	1.5
310	3	64.6	.037	0	2.55	93.2	85.0	12.4	84	96	110	134	159	209	257	332	360	398	1.0	1.0
311	4	61.3	.108	1	1.88	92.3	83.7	11.1	86	98	107	128	154	208	264	331	356	400	1.0	2.3
312	7	64.0	.029	2	1.79	92.3	84.3	11.0	81	93	104	121	143	195	250	330	364	427	1.1	1.9
313	3	65.0	.040	0	2.29	93.0	84.8	11.3	83	99	111	132	153	201	250	322	355	415	1.2	.8
314	1	63.6	.028	1	1.55	91.5	84.6	8.0	80	87	98	117	139	192	253	334	368	420	1.0	2.5
315	5	64.7	.022	0	1.85	92.5	84.6	12.0	86	96	108	128	150	200	250	332	368	426	1.0	1.5
AVERAGE		64.2	.047	1	1.90	92.5	84.5	11.0	83	94	106	126	149	200	252	326	357	410	1.0	2.0
SAMPLES	81																			

Premium-price gasoline

316	12	69.8	0.009	1	1.43	99.2	91.5	12.4	85	93	104	122	141	185	229	309	345	407	0.9	2.9
317	3	65.6	.073	2	3.12	100.1	92.4	12.5	80	90	100	122	152	207	244	301	333	382	.9	3.6
318	4	63.6	.070	1	2.62	99.1	91.1	12.0	84	90	106	132	163	216	251	315	354	395	1.0	3.3
319	4	60.3	.018	2	2.02	100.0	92.3	11.3	82	94	108	139	177	220	251	312	344	406	1.0	2.1
320	4	66.2	.040	2	2.47	99.2	92.4	11.8	87	98	107	125	149	203	242	326	366	414	.8	1.8
321	7	65.9	.016	1	2.42	99.2	91.7	12.3	84	94	104	123	149	202	245	326	362	416	.8	2.5
322	9	64.8	.055	1	2.63	99.3	91.7	11.2	87	96	116	145	174	216	247	326	348	408	1.1	3.3
323	5	66.0	.043	1	2.44	99.1	91.8	9.4	86	108	120	139	164	207	242	318	357	412	1.0	1.0
324	1	67.4	.015	1	2.03	98.5	92.0	12.3	80	87	99	117	143	198	235	321	367	406	1.0	2.5
325	3	66.4	.059	0	2.80	99.2	92.7	11.4	86	99	111	135	164	214	246	327	364	420	.8	2.7
326	7	66.3	.018	2	2.33	99.1	91.9	12.1	82	95	105	125	150	202	244	327	363	420	.7	1.6
327	4	63.4	.075	1	2.91	99.4	90.9	11.8	82	95	107	133	163	216	250	312	340	387	.9	1.9
328	3	69.8	.023	0	2.61	99.7	94.8	12.3	86	105	120	146	180	213	236	321	366	414	.9	2.1
329	3	69.4	-	1	1.50	99.3	91.9	12.0	84	99	106	123	143	186	231	309	354	409	.8	2.2
330	10	61.4	.015	1	3.14	99.3	90.5	11.4	88	97	114	138	164	210	247	311	335	413	1.1	3.5
331	1	68.6	.042	1	3.10	100.7	94.0	11.7	83	92	107	134	167	206	231	318	361	405	1.0	2.5
AVERAGE		65.9	.038	1	2.47	99.4	92.1	11.7	84	96	108	131	159	206	242	317	354	407	.9	2.5
SAMPLES	80																			

† Research octane numbers above 100 determined by ASTM D1656.

District 10

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Central Plains area: Nebraska, central and western Iowa, northwestern Missouri, and northern Kansas

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
332	1	55.5	0.035	1	1.42	93.0	81.8	9.7	88	112	124	148	172	225	285	372	410	434	0.9	2.1
333	19	64.6	.043	1	2.02	92.7	84.8	12.0	86	97	110	131	153	197	246	320	352	392	.9	2.6
334	9	64.6	.033	1	1.89	92.4	85.2	12.0	82	98	107	125	146	196	251	338	374	419	.9	1.1
335	10	63.7	.037	1	1.78	92.1	85.1	11.8	88	96	111	131	152	204	260	339	370	422	1.0	2.9
336	12	64.5	.038	1	2.01	92.3	85.3	11.4	85	99	111	130	149	192	245	342	381	430	.9	1.6
337	10	64.1	.042	1	1.96	92.7	85.6	11.8	86	97	109	132	155	204	254	333	361	407	1.0	3.4
338	16	67.7	.036	0	1.27	92.3	85.8	13.0	86	94	103	118	134	178	235	314	350	400	1.0	2.5
339	3	65.8	-	1	1.23	93.4	85.0	12.8	79	91	98	115	135	187	246	333	371	414	.8	1.2
340	1	63.1	.004	1	1.95	93.0	84.8	11.0	80	106	118	140	164	209	253	332	384	422	.9	2.1
341	5	65.1	.026	1	2.18	92.1	85.3	12.5	82	99	108	133	153	210	264	346	385	415	1.0	2.2
342	3	65.0	-	2	1.51	92.9	85.2	12.9	80	94	103	119	140	191	248	336	372	408	.9	1.1
343	6	64.1	.036	1	1.88	92.7	85.2	11.4	85	100	111	132	155	206	256	335	369	416	1.0	1.1
344	13	63.4	.031	1	1.58	92.6	85.6	12.7	86	93	105	125	147	202	269	359	390	424	1.0	3.3
AVERAGE		63.9	.033	1	1.74	92.6	85.0	11.9	84	98	109	129	150	200	255	338	375	416	.9	2.1
SAMPLES	108																			

Premium-price gasoline

345	5	68.1	0.027	1	2.39	98.9	91.9	12.3	83	101	116	141	164	204	247	321	365	399	0.9	2.5
346	1	62.6	.002	1	2.20	97.0	90.2	11.3	76	100	112	134	158	215	265	332	374	408	.8	2.2
347	3	66.5	-	2	2.39	99.2	91.9	11.9	79	89	102	124	151	210	252	330	364	414	.9	2.1
348	15	69.5	.036	0	2.12	99.1	92.0	12.7	85	92	103	119	138	186	232	322	370	414	.9	2.7
349	10	65.7	.016	1	2.49	98.9	91.8	11.8	86	97	109	130	155	207	252	333	366	416	1.0	2.9
350	12	66.3	.021	1	2.24	99.3	91.8	11.7	84	95	110	131	158	207	249	332	366	412	.9	2.2
351	10	66.0	.017	1	2.67	99.3	91.7	11.3	91	101	116	135	157	199	234	291	320	380	1.1	2.6
352	9	67.7	.018	1	2.16	99.3	91.5	11.9	83	96	105	126	153	203	243	327	366	416	.8	1.7
353	18	63.0	.025	2	2.69	99.1	91.7	12.2	84	93	107	128	153	205	249	316	348	406	.9	3.0
354	1	60.4	.018	1	3.65	98.0	86.2	10.9	86	118	136	170	202	255	293	376	428	434	.8	1.2
355	13	64.4	.011	0	2.23	98.7	92.6	12.0	85	94	108	129	152	204	252	322	351	393	.9	2.7
356	6	67.4	.020	0	2.24	99.3	91.9	12.2	82	93	103	124	149	201	239	326	367	414	.9	1.9
357	3	67.3	-	3	2.31	99.3	92.3	12.8	82	94	104	127	155	210	253	340	377	408	.9	1.1
AVERAGE		65.8	.019	1	2.44	98.9	91.3	11.9	84	97	110	132	157	208	251	328	366	409	.9	2.2
SAMPLES	106																			

District 11

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

South Plains area: Southern Kansas, southwestern Missouri, western Arkansas, Oklahoma, and northern Texas

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
358	7	65.5	0.026	0	2.55	92.5	87.0	12.3	83	97	107	125	147	193	241	320	357	406	0.9	1.6
359	11	64.5	.045	1	2.49	92.8	86.1	11.1	85	97	109	129	148	188	232	326	365	419	.9	1.7
360	11	63.8	.027	0	1.48	92.6	85.1	12.5	82	92	103	122	144	193	253	332	363	418	.9	2.0
361	8	64.5	.041	1	1.77	92.6	84.9	12.2	84	98	110	133	157	203	250	326	365	409	.8	2.0
362	3	63.8	.018	-	2.55	93.7	87.6	11.2	88	101	112	132	152	196	252	340	372	410	1.3	1.2
363	3	65.5	.026	0	2.08	92.1	86.3	12.6	81	94	102	118	136	180	235	317	350	412	.8	1.2
364	6	61.8	.039	1	2.09	93.0	86.0	11.0	87	99	110	129	149	199	260	337	363	415	1.0	1.3
365	3	64.1	.030	-	1.88	93.2	85.8	12.0	84	94	102	120	140	185	246	336	372	416	1.3	1.2
366	7	61.9	.029	1	2.28	92.5	85.3	12.2	85	97	108	128	150	199	256	336	373	419	.9	2.0
367	12	64.7	.031	1	1.88	92.5	86.1	12.2	83	92	104	122	143	190	248	327	356	407	.9	2.3
368	17	64.9	.026	0	1.53	92.7	85.6	12.3	83	93	104	122	141	189	249	338	374	416	1.0	2.1
369	17	64.7	.035	1	2.01	93.1	85.5	11.9	82	93	105	124	144	189	240	323	357	396	.9	1.9
370	6	64.1	.040	-	2.82	93.0	86.6	11.8	85	99	108	126	145	187	247	334	372	419	.9	1.4
371	3	62.8	.016	-	.94	94.1	85.8	12.2	80	92	102	122	144	196	258	324	350	406	.8	1.7
372	7	64.7	.024	1	2.21	92.2	86.1	12.1	81	91	104	125	148	198	248	329	368	419	.9	2.1
373	4	65.2	.044	1	2.39	91.7	86.1	12.0	82	92	104	122	142	186	238	318	364	407	.9	1.7
374	4	64.9	.026	1	2.25	92.2	86.1	12.1	80	90	103	123	145	193	243	324	368	419	1.0	1.8
375	6	63.9	.019	1	1.47	92.1	85.8	12.4	83	96	106	125	147	200	256	326	355	395	.8	1.2
376	16	63.8	.031	1	1.94	92.6	86.0	12.4	81	90	102	119	141	189	248	335	367	408	1.0	2.1
377	3	63.0	.029	-	1.99	94.4	86.3	11.3	86	96	110	131	152	196	260	344	376	426	1.1	.9
AVERAGE		64.1	.030	1	2.03	92.8	86.0	12.0	83	95	106	125	146	192	248	330	364	412	1.0	1.7
SAMPLES	154																			

District 11 (Cont.)

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

South Plains area: Southern Kansas, southwestern Missouri, western Arkansas, Oklahoma, and northern Texas

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
378	17	68.6	0.022	0	2.42	99.5	92.6	12.1	83	92	104	122	143	193	243	320	356	405	1.0	2.0
379	11	63.0	.033	1	2.92	99.7	91.7	12.2	82	90	105	128	155	210	257	329	363	406	1.0	2.7
380	7	62.0	.015	1	2.96	99.3	92.4	12.2	81	89	102	125	153	210	252	323	357	409	.8	3.0
381	3	57.9	.007	-	2.98	99.6	92.6	12.4	82	90	104	132	166	221	258	320	346	400	.9	1.6
382	6	64.9	.018	0	3.07	100.1	93.5	11.8	85	100	112	134	161	206	246	317	347	389	1.0	1.3
383	3	63.0	.012	0	2.76	100.0	91.3	12.5	82	92	101	116	134	194	257	322	350	405	.8	1.2
384	3	61.7	.011	-	3.11	99.9	92.3	11.6	86	95	106	126	150	205	261	324	350	406	.8	1.2
385	8	68.4	.039	1	1.88	99.2	92.6	12.2	83	101	115	143	174	214	242	326	370	414	.8	2.5
386	13	60.1	.017	1	2.85	99.3	92.2	12.5	81	90	105	131	160	218	263	337	368	413	.9	2.6
387	11	60.5	.031	1	2.83	99.3	91.7	11.2	84	99	113	137	164	213	256	330	360	408	.9	1.6
388	7	67.5	.034	0	2.95	99.7	93.5	12.6	83	96	109	133	160	207	244	342	379	419	1.1	1.9
389	3	57.5	.012	-	2.91	100.2	93.1	12.4	86	93	108	135	168	230	265	322	352	422	1.0	1.5
390	16	61.8	.020	1	2.56	99.3	92.0	12.2	81	89	100	121	146	203	253	320	349	394	.9	2.1
391	6	67.4	.021	0	2.31	99.1	93.6	12.6	84	94	106	129	156	208	244	322	356	402	1.0	1.8
392	4	66.3	.020	1	2.46	99.8	92.4	12.5	78	87	103	125	151	208	252	322	355	399	.9	2.4
393	4	64.5	.032	1	2.31	99.7	91.8	11.6	81	94	108	133	161	214	257	328	359	409	1.0	1.6
394	7	67.7	.020	1	2.54	99.5	92.6	12.5	79	90	103	125	150	205	246	324	358	403	.9	2.0
395	3	66.9	.012	-	2.54	100.3	93.1	11.7	82	92	102	121	140	183	230	288	321	370	.8	1.7
396	6	66.8	.016	-	3.30	99.9	93.5	12.2	82	94	104	123	146	197	240	328	369	414	1.2	1.4
397	17	59.0	.015	1	2.93	99.6	91.1	11.6	83	94	107	129	156	210	249	302	330	374	.9	2.2
AVERAGE		63.8	.020	1	2.73	99.7	92.5	12.1	82	93	106	128	155	207	251	322	355	403	.9	1.9
SAMPLES	155																			

District 12

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Southern Texas

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
398	12	61.7	0.027	1	1.92	93.6	86.4	11.0	88	100	112	131	152	198	261	342	371	408	1.0	1.8
399	13	63.8	.036	1	2.48	94.3	85.7	10.7	86	99	110	128	148	190	246	329	357	395	.9	1.4
400	13	61.2	.011	1	2.69	94.1	87.8	10.0	89	101	117	140	162	207	261	338	364	411	.9	1.5
401	5	64.7	.023	1	1.82	95.3	85.5	10.7	89	101	110	125	139	173	225	324	358	390	1.0	1.5
402	4	62.6	.018	1	1.10	94.1	85.7	11.1	83	99	111	130	151	200	259	326	344	390	.9	1.7
403	10	63.7	.021	1	2.52	93.8	87.3	11.2	88	102	112	130	148	192	252	339	367	406	1.1	1.3
404	9	62.5	.012	1	3.12	94.3	88.6	10.8	85	95	109	131	153	201	252	344	374	421	.9	2.1
405	1	62.0	.080	1	1.56	95.4	86.1	12.7	81	85	103	129	157	209	252	322	361	406	1.0	4.0
406	3	62.9	.141	-	1.58	94.8	84.2	12.0	84	95	106	124	142	188	260	372	408	442	1.0	2.0
407	13	61.2	.013	1	1.24	94.0	86.0	11.4	87	100	112	131	153	204	259	320	344	388	.9	1.5
408	2	64.2	-	-	3.41	94.4	88.0	12.1	80	94	106	126	144	184	242	348	376	414	1.0	1.0
409	4	64.0	.011	1	2.67	94.1	87.6	11.4	87	99	110	129	149	196	253	335	368	407	1.0	1.3
410	10	63.2	.013	1	1.66	94.3	87.8	10.9	89	100	110	126	143	184	249	329	363	412	1.0	1.6
411	3	64.7	.005	-	3.79	91.6	87.5	10.8	88	104	118	140	160	196	236	298	320	350	.7	1.3
412	1	62.7	.093	1	1.31	95.5	84.7	12.3	85	90	105	126	149	201	255	335	372	416	1.0	3.5
413	3	64.7	.010	-	3.55	92.8	88.6	11.3	88	102	114	133	150	186	228	306	350	402	.7	1.3
414	6	63.0	.073	-	2.51	93.7	86.0	11.6	84	96	107	127	149	197	250	322	366	408	.8	1.8
415	1	61.5	.084	1	2.54	95.0	86.0	12.2	82	91	102	133	161	212	254	329	366	412	1.0	2.5
416	4	63.4	.018	1	3.25	94.5	87.4	12.0	80	87	99	117	138	189	248	356	390	433	1.0	2.1
417	3	61.9	.024	-	1.12	92.9	85.5	10.7	80	90	100	118	134	170	234	320	346	394	.7	1.3
AVERAGE		63.0	.038	1	2.29	94.1	86.6	11.3	85	97	109	129	149	194	249	332	363	405	.9	1.8
SAMPLES	120																			

District 12 (Cont.)

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Southern Texas

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
418	3	63.7	0.067	-	3.01	100.0	91.0	12.5	80	96	107	128	152	201	250	328	364	410	0.9	1.1
419	1	64.0	.059	1	2.53	99.3	90.1	12.0	81	92	106	127	177	219	252	335	370	426	1.0	1.5
420	9	62.8	.013	1	3.00	100.0	92.9	11.3	85	95	109	135	160	209	256	337	366	409	1.0	1.7
421	10	59.0	.014	1	2.92	99.7	92.1	11.4	88	100	114	140	166	221	269	339	364	408	1.0	1.7
422	4	66.2	.010	1	2.47	100.3	92.5	11.0	87	100	110	127	143	184	232	298	328	371	.9	1.2
423	5	56.4	.005	1	* .00	101.0	90.4	10.9	87	99	114	148	187	231	258	306	333	377	.9	1.8
424	13	61.3	.012	1	2.82	100.4	92.3	10.2	88	101	117	141	163	205	245	316	349	395	.9	1.5
425	13	59.9	.015	2	3.27	100.9	91.5	11.0	84	96	111	136	163	216	259	311	340	383	.9	1.7
426	13	62.4	.015	1	2.43	99.9	92.2	11.1	85	97	109	130	154	212	262	325	352	397	.9	1.7
427	3	65.5	.023	-	3.03	100.0	94.6	12.4	86	98	108	128	148	196	246	324	360	394	.8	1.7
428	4	63.6	.013	1	3.29	100.3	93.6	10.6	80	90	106	130	158	206	254	327	359	410	.9	2.4
429	1	63.4	.051	1	3.04	100.7	91.8	11.7	85	95	109	131	156	205	254	334	372	419	1.0	2.0
430	6	62.7	.045	-	3.11	100.3	92.7	11.4	79	91	103	125	152	198	248	326	359	399	.8	1.5
431	3	56.4	.010	-	3.94	100.0	90.7	8.8	94	108	126	148	168	208	240	318	360	418	.9	1.1
432	1	64.4	.053	1	2.64	99.5	90.0	11.6	84	93	107	129	154	203	250	329	367	422	1.0	2.5
433	3	63.4	.025	-	3.98	99.6	90.5	10.1	92	106	112	124	139	173	242	350	371	400	.8	1.7
434	10	66.7	.016	1	2.91	100.2	94.1	11.1	88	99	110	124	141	192	242	322	368	422	1.0	1.8
435	4	62.4	.006	1	3.19	100.0	92.9	11.4	82	94	108	128	151	206	258	321	345	389	.9	1.6
436	2	64.6	-	-	3.35	100.3	94.7	10.5	82	94	108	132	158	208	254	342	367	410	.9	1.1
437	12	65.6	.011	1	2.59	100.1	93.0	11.3	87	97	107	123	141	187	230	293	323	374	.9	1.4
AVERAGE		62.7	.024	1	3.03	100.1	92.2	11.1	85	97	110	132	157	204	250	324	356	402	.9	1.6
SAMPLES	120																			

† Research octane numbers above 100 determined by ASTM D1656.

* Not included in average for lead.

District 13

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

South Mountain States: Southwestern Kansas, panhandles of Oklahoma and Texas, western Texas, New Mexico, Colorado, Utah, Arizona, Nevada, and eastern California

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
438	4	61.0	0.077	1	1.62	92.7	82.1	10.6	79	93	110	135	160	211	269	350	383	421	1.1	2.0
439	28	64.9	.053	1	1.88	92.3	85.3	10.7	90	100	114	130	146	182	230	326	368	417	.9	2.3
440	6	64.3	.050	1	2.26	92.4	85.3	10.2	89	103	114	128	145	189	253	333	364	405	.9	1.2
441	12	63.5	.029	1	1.63	91.2	85.1	11.3	85	94	111	134	156	198	246	329	361	411	1.0	3.5
442	31	63.3	.020	0	2.01	92.2	85.6	10.7	90	103	114	134	153	194	243	328	364	413	.9	2.1
443	19	63.2	.036	0	2.04	92.3	84.7	10.9	88	98	114	135	155	197	250	342	372	419	.9	2.9
444	13	59.9	.079	2	2.96	93.9	86.1	10.8	88	100	116	143	170	223	277	346	374	410	1.1	2.3
445	4	60.8	-	-	1.03	90.2	83.0	12.3	85	92	114	143	173	225	282	356	380	422	1.4	3.7
446	16	60.7	.059	0	2.26	93.8	85.8	11.0	87	99	115	137	160	209	272	352	383	426	1.1	2.1
447	2	62.8	.077	1	2.13	91.7	82.6	10.1	96	103	120	138	154	186	220	284	318	374	.8	2.0
448	15	61.1	.045	1	2.21	93.2	85.3	10.0	91	102	115	134	155	204	265	338	366	408	.8	1.7
449	47	60.9	.047	1	2.00	92.8	84.6	10.2	90	101	117	138	160	208	262	336	366	407	.9	2.1
450	12	61.8	.036	1	1.95	92.0	85.1	11.3	86	95	108	128	145	186	235	326	367	416	.8	2.3
451	3	58.1	.058	1	3.03	91.7	82.4	10.6	92	104	122	148	171	218	268	335	357	400	.8	2.2
452	32	61.0	.039	1	1.68	92.8	85.0	11.3	87	98	112	134	156	201	258	343	378	424	1.0	2.4
453	3	67.1	.015	0	2.12	92.7	86.2	10.4	89	104	114	128	144	181	234	330	374	417	.9	1.1
454	3	64.9	.005	0	2.66	91.0	87.2	10.9	90	104	117	139	162	199	225	264	294	348	.8	3.2
455	15	64.9	.016	2	2.33	92.2	85.5	10.2	90	105	116	133	151	191	245	339	377	418	.8	1.5
456	21	61.7	.046	2	2.06	92.7	85.2	10.9	89	101	114	134	155	203	260	339	373	421	1.0	1.7
457	4	61.4	.084	2	1.54	92.2	82.6	11.0	81	94	110	134	160	211	268	352	384	421	1.0	2.1
458	27	62.0	.052	1	2.25	92.7	85.4	10.6	87	100	114	133	153	198	254	343	378	419	.9	1.9
459	3	57.3	.089	0	2.05	93.4	84.1	10.8	92	105	122	147	172	219	266	330	354	398	1.0	2.0
460	1	60.1	.070	2	2.19	92.8	84.3	10.3	86	103	116	137	157	205	265	354	389	435	1.0	2.0
461	2	58.1	.100	0	2.62	92.0	83.8	9.8	92	102	117	148	183	242	296	370	398	418	.8	3.2
AVERAGE		61.9	.051	1	2.10	92.4	84.7	10.7	88	100	115	136	158	203	256	335	368	411	.9	2.2
SAMPLES	323																			

District 13 (Cont.)

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

South Mountain States: Southwestern Kansas, panhandles of Oklahoma and Texas, western Texas, New Mexico, Colorado, Utah, Arizona, Nevada, and eastern California

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
462	47	63.1	0.014	0	2.63	99.0	91.4	10.4	88	99	115	139	163	209	251	314	345	403	0.9	2.3
463	15	64.3	.012	1	2.67	99.9	92.1	10.0	89	103	116	135	156	202	239	302	334	382	.8	1.6
464	2	50.8	.015	0	3.13	99.9	90.5	10.3	88	97	121	162	200	248	285	332	349	410	1.0	3.0
465	16	60.0	.049	1	2.57	99.6	90.6	11.0	84	96	112	135	160	212	258	322	353	404	1.1	2.2
466	4	60.5	-	-	2.52	97.2	88.2	12.7	83	96	109	134	161	215	269	342	376	407	1.0	4.1
467	13	57.3	.040	1	3.23	100.0	91.2	10.5	84	98	114	138	162	216	268	332	358	401	1.1	2.2
468	18	63.6	.043	1	2.63	98.1	90.9	11.4	86	95	111	135	161	213	251	320	356	408	.9	3.2
469	32	64.1	.015	1	2.57	99.8	93.4	11.1	87	100	112	133	155	202	238	304	344	400	.9	2.0
470	11	62.6	.017	1	2.21	97.4	90.0	11.6	84	93	107	129	152	207	258	322	349	398	1.0	3.1
471	6	67.8	.014	2	2.82	100.1	95.2	10.4	85	101	113	130	151	202	241	301	338	401	1.0	1.4
472	28	66.3	.032	0	2.09	99.0	92.2	10.8	88	98	110	128	147	197	238	313	355	409	.8	2.2
473	4	57.9	.072	1	3.03	97.5	86.8	10.8	80	89	114	146	178	230	281	357	386	420	1.0	2.8
474	2	60.1	.043	0	3.21	100.2	91.4	11.0	92	98	111	132	152	194	235	305	342	396	.8	2.5
475	1	63.2	.070	1	3.22	99.3	91.5	10.8	80	100	113	138	163	215	257	329	363	401	1.0	2.0
476	3	55.2	.017	0	3.89	99.9	92.1	10.4	90	102	119	145	172	218	258	308	327	388	.5	2.5
477	27	65.5	.026	0	2.56	99.6	93.0	11.2	86	98	112	133	155	204	242	308	346	401	.9	2.0
478	4	62.3	.032	1	2.50	97.0	88.9	11.4	77	88	106	131	158	213	262	351	389	428	1.1	2.5
479	21	62.9	.027	2	2.70	99.9	92.2	10.6	88	102	115	137	161	209	245	314	345	400	.9	1.7
480	15	68.3	.010	2	2.50	99.7	94.8	10.6	90	103	115	135	155	198	228	292	340	400	.8	1.7
481	3	55.0	.003	0	3.36	99.6	92.2	10.7	90	100	119	152	189	242	288	340	361	405	.8	2.7
482	3	71.8	.013	0	2.26	100.0	95.8	10.5	90	108	121	137	155	201	228	290	346	407	1.1	1.4
483	32	63.7	.019	1	2.63	99.4	91.4	11.4	86	96	111	133	156	207	253	320	349	397	.9	2.3
484	3	52.5	.007	1	3.10	100.0	91.8	11.5	90	100	122	158	190	232	266	315	336	394	.8	3.2
485	12	63.3	.030	1	2.72	98.5	91.3	11.5	84	93	106	127	150	201	246	327	368	417	.9	2.3
AVERAGE		61.8	.027	1	2.78	99.2	91.6	10.9	86	98	114	138	163	212	254	319	352	403	.9	2.4
SAMPLES	322																			

District 14

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

North Mountain States: Wyoming, Montana, Idaho, eastern Washington, and eastern Oregon

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
486	5	63.0	0.059	-	2.00	93.6	85.6	12.6	86	91	106	130	153	200	250	326	356	428	0.8	3.2
487	7	61.6	.048	5	2.39	94.3	85.9	11.1	90	103	115	137	159	206	268	353	387	445	1.0	2.5
488	9	62.5	.045	2	2.01	93.2	84.6	12.2	87	101	112	134	157	204	258	342	375	417	1.1	2.0
489	13	62.9	.115	3	1.89	92.6	83.8	11.8	87	97	109	132	157	206	258	344	385	419	1.1	2.9
490	8	62.7	.060	2	2.19	92.8	85.3	12.0	84	99	111	133	155	201	257	340	378	424	1.0	2.9
491	11	62.7	.051	3	1.71	93.4	84.5	12.0	84	95	108	129	153	201	256	346	382	420	1.2	2.1
492	13	62.9	.080	2	1.87	92.9	84.0	11.9	86	99	111	133	157	205	258	338	378	415	.9	2.3
493	14	62.1	.054	1	1.82	92.7	84.9	11.7	85	96	111	135	160	210	264	346	380	425	1.1	2.1
494	17	63.1	.068	2	2.01	92.7	84.4	12.3	86	95	108	130	155	206	264	348	384	426	1.1	2.8
495	5	61.7	.061	-	1.75	93.4	84.6	12.5	87	92	106	130	154	202	254	337	370	436	1.0	3.5
496	7	62.7	.114	3	1.97	94.1	84.4	12.0	89	99	110	131	156	205	258	340	376	421	1.0	2.7
497	19	62.2	.099	3	1.70	92.9	83.8	11.5	86	97	111	134	159	209	262	342	373	412	1.0	2.5
AVERAGE		62.5	.071	3	1.94	93.2	84.7	12.0	86	97	110	132	156	205	259	342	377	424	1.0	2.6
SAMPLES	128																			

Premium-price gasoline

498	11	65.6	0.023	2	2.04	99.8	91.2	12.2	84	94	111	139	168	213	245	311	345	393	0.8	2.8
499	8	60.8	.023	2	2.96	98.7	91.2	11.8	84	93	108	137	170	218	254	324	356	410	.9	2.6
500	12	63.7	.045	3	3.03	99.0	90.2	12.0	87	96	110	136	164	214	251	312	344	396	1.1	2.7
501	9	59.7	.016	1	3.14	99.1	91.6	12.2	85	99	113	141	175	225	265	326	353	404	1.2	2.0
502	7	59.4	.019	1	3.17	99.7	91.0	11.1	88	99	112	138	167	220	268	331	363	425	1.0	2.6
503	5	60.4	.016	-	3.10	99.3	91.9	12.8	85	90	104	129	159	214	256	319	348	406	1.0	3.5
504	19	63.7	.042	2	3.06	99.2	90.0	11.9	86	97	109	131	156	209	252	316	345	409	1.0	2.7
505	7	66.3	.045	4	3.36	100.0	91.5	12.1	87	96	110	137	167	212	241	304	340	394	.9	2.7
506	5	63.5	.021	-	2.79	99.6	92.0	11.8	86	93	108	136	167	219	256	318	353	414	.8	3.2
507	17	60.9	.021	3	3.11	98.9	90.8	12.5	84	95	110	138	169	219	257	331	363	412	1.0	3.6
508	14	59.6	.032	0	2.99	98.4	90.8	11.8	86	96	111	138	168	217	259	338	368	419	1.0	2.9
509	13	64.0	.057	2	2.92	99.0	90.2	12.1	86	96	107	131	157	209	248	312	345	399	.9	2.7
AVERAGE		62.3	.030	2	2.97	99.2	91.0	12.0	86	95	109	136	166	216	254	320	352	407	1.0	2.8
SAMPLES	127																			

District 15

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Pacific Northwest: Western Washington and western Oregon

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
510	3	64.3	0.014	0	2.01	91.7	86.0	13.3	82	90	102	120	140	182	230	310	346	426	0.8	2.5
511	10	63.4	.037	2	2.32	93.9	86.1	13.2	85	92	104	124	147	195	247	345	385	422	.9	2.6
512	10	62.4	.035	1	2.35	94.2	86.7	12.8	87	95	107	128	152	202	253	346	384	421	1.0	2.9
513	10	62.7	.018	1	2.39	93.1	87.2	12.9	84	93	105	125	147	198	254	347	382	419	1.1	2.6
514	10	63.0	.025	1	2.23	93.3	86.6	12.7	84	92	106	128	154	205	256	342	374	411	.9	3.0
515	10	62.4	.032	1	2.07	93.5	86.4	12.8	84	92	105	125	147	197	253	348	383	418	.8	2.8
516	10	62.2	.055	1	2.31	93.7	85.8	12.2	85	96	108	130	154	202	255	353	389	421	1.0	2.4
517	7	62.8	.028	1	2.35	93.5	86.4	12.6	88	96	107	127	148	196	247	344	387	428	1.0	2.6
518	7	62.4	.024	1	2.18	93.6	86.2	12.7	84	91	103	126	153	201	252	338	371	408	.9	3.2
519	1	63.2	.010	3	2.59	93.0	87.4	11.1	90	102	110	131	152	199	252	351	383	416	1.0	2.0
AVERAGE		62.9	.028	1	2.28	93.4	86.5	12.6	85	94	106	126	149	198	250	342	378	419	.9	2.7
SAMPLES	78																			

Premium-price gasoline

520	10	62.0	0.022	1	2.50	100.2	91.1	12.2	85	94	110	135	162	212	248	314	350	406	0.7	3.0
521	10	63.8	.018	1	2.49	99.8	91.9	12.6	85	94	109	134	160	207	247	317	356	403	.9	3.1
522	10	64.2	.011	0	2.15	100.0	90.1	12.3	85	95	106	124	144	193	246	308	335	386	.9	2.5
523	10	64.8	.008	0	2.52	99.4	92.4	12.0	84	94	110	133	158	203	245	320	355	404	1.0	2.5
524	10	62.5	.021	1	2.36	100.2	91.6	12.4	83	92	109	133	160	210	246	308	344	400	.8	2.8
525	10	64.2	.018	1	2.56	100.1	91.5	13.4	82	90	103	127	157	209	247	310	345	403	.8	3.4
526	3	62.5	.003	0	2.78	100.0	93.0	12.4	86	92	104	124	144	190	238	295	316	372	.5	2.5
527	1	64.0	.010	1	2.74	99.2	92.3	11.1	89	109	119	140	165	209	252	331	363	399	1.0	2.0
528	7	64.2	.010	0	2.19	100.1	90.5	12.4	84	95	105	124	144	192	245	307	332	379	.9	2.5
529	7	64.4	.024	1	2.48	99.9	92.0	13.1	85	92	104	127	154	202	246	326	363	410	.8	3.2
AVERAGE		63.7	.015	1	2.48	99.9	91.6	12.4	85	95	108	130	155	203	246	314	346	396	.8	2.8
SAMPLES	78																			

District 16

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Northern California

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
530	3	63.7	0.029	0	1.57	91.1	85.7	11.6	86	100	112	133	156	203	252	324	356	410	1.0	1.2
531	8	62.5	.009	1	1.09	93.9	86.2	11.6	87	96	108	127	146	188	232	320	358	413	1.1	2.3
532	8	62.1	.029	2	2.35	93.5	86.2	11.8	84	95	110	136	161	207	257	335	367	405	1.1	2.7
533	3	66.4	.003	0	1.75	90.8	87.0	12.6	85	91	105	125	148	189	233	284	307	352	.7	3.3
534	8	62.5	.025	1	1.57	93.9	86.0	12.5	81	88	103	126	152	205	261	344	372	406	1.1	3.0
535	1	65.6	.030	2	1.96	90.4	86.2	11.1	90	103	114	132	152	195	240	295	318	348	1.0	2.0
536	5	64.0	.031	1	2.08	93.9	87.4	11.9	97	105	114	131	152	192	240	312	339	378	1.1	1.5
537	8	58.6	.121	1	2.62	94.3	85.8	11.0	85	98	116	142	168	219	271	342	374	413	1.0	2.6
538	8	60.8	.065	1	2.43	94.2	85.4	10.6	92	102	118	140	162	205	250	321	350	390	1.1	2.5
539	8	60.5	.032	1	2.47	93.9	86.9	12.2	82	91	105	130	155	205	262	340	371	427	1.1	2.8
540	8	62.7	.034	2	1.13	93.9	86.3	11.3	92	101	112	129	148	189	234	326	366	419	1.1	1.7
541	3	61.8	.069	1	1.44	92.3	82.7	10.8	91	102	118	139	158	198	241	310	342	398	.7	2.8
AVERAGE		62.6	.040	1	1.87	93.0	86.0	11.6	88	98	111	133	155	200	248	321	352	397	1.0	2.4
SAMPLES	71																			

Premium-price gasoline

542	5	60.4	0.026	2	2.30	99.8	91.9	13.0	84	96	107	126	147	201	255	322	346	398	1.1	2.1
543	1	61.0	.030	2	2.66	99.4	92.8	11.3	86	99	109	125	144	191	247	302	320	354	1.0	2.0
544	8	61.2	.029	3	2.17	100.0	91.3	12.5	84	89	105	130	158	209	250	319	345	391	1.1	3.5
545	3	61.0	.009	0	2.95	100.1	93.6	11.6	90	101	110	128	147	190	244	302	323	378	.8	2.2
546	8	64.0	.007	1	1.99	100.0	90.3	11.6	85	96	108	126	147	196	251	316	343	393	1.1	2.3
547	8	60.6	.013	2	1.87	100.0	90.5	11.7	85	96	107	126	146	189	240	325	356	404	1.0	2.3
548	3	59.7	.055	0	2.84	100.0	91.4	12.9	85	90	104	126	150	208	260	329	356	438	.8	3.2
549	3	58.7	.015	0	2.98	100.2	92.0	11.7	87	94	109	134	157	204	257	329	356	404	.7	3.3
550	1	-	-	-	-	99.8	92.4	11.4	81	90	107	127	150	199	252	315	344	395	1.0	3.0
551	8	60.8	.013	1	2.11	100.0	90.7	11.1	87	100	113	130	148	194	245	327	355	404	1.1	1.5
552	9	59.2	.066	1	2.76	100.2	90.7	12.5	82	90	105	127	153	209	261	333	359	417	1.0	2.9
553	8	58.7	.018	1	2.89	100.0	91.6	11.1	87	97	113	136	161	211	265	341	367	400	1.0	2.6
554	8	58.0	.027	2	3.03	100.0	91.3	10.9	90	101	116	139	164	216	274	344	371	406	1.1	2.2
AVERAGE		60.3	.026	1	2.55	100.0	91.6	11.8	86	95	109	129	152	201	254	323	349	399	1.0	2.5
SAMPLES	73																			

District 17

TABLE 3. - Motor gasoline survey, winter 1967-68--Continued
(Average values of different brands)

Southern California

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
555	10	59.4	0.035	1	1.94	94.0	85.9	10.1	93	105	117	135	153	204	277	353	383	418	1.2	1.3
556	10	58.0	.039	2	.97	95.0	85.4	12.0	86	97	110	131	155	212	295	376	400	435	1.0	2.1
557	10	57.5	.115	2	2.70	94.9	85.3	11.1	89	99	114	141	172	231	289	360	383	413	1.0	2.0
558	1	58.6	.047	1	1.81	93.3	85.6	10.1	92	108	119	138	160	212	286	362	387	423	1.0	1.0
559	8	57.7	.058	2	2.08	94.3	85.3	11.1	86	98	114	140	171	231	286	341	362	397	1.1	2.1
560	3	61.4	.026	-	2.21	91.4	85.2	9.0	100	114	131	152	170	205	242	304	343	404	.8	1.2
561	4	58.7	.038	-	1.94	93.7	85.6	9.9	90	105	117	140	164	216	279	351	379	424	1.4	1.1
562	3	59.3	.109	-	1.62	91.9	83.2	12.1	86	95	108	130	156	214	276	352	378	416	.5	2.0
563	10	63.2	.111	2	2.27	94.3	85.3	11.3	91	101	113	129	148	191	238	304	338	391	1.1	1.8
564	5	57.7	.102	2	2.22	94.4	85.3	12.4	86	96	107	136	172	233	292	355	381	411	1.1	2.1
565	3	58.5	.050	-	.75	91.3	82.8	10.4	90	101	120	148	173	214	256	318	343	408	.8	2.2
566	10	59.5	.075	2	2.10	93.9	85.4	11.1	87	98	110	129	152	208	282	364	391	415	1.1	1.6
AVERAGE		59.1	.067	2	1.88	93.5	85.0	10.9	90	101	115	137	162	214	275	345	372	413	1.0	1.7
SAMPLES	77																			

Premium-price gasoline

567	8	61.2	0.033	2	2.87	100.1	91.4	10.9	88	99	115	139	165	216	257	312	341	396	1.1	2.2
568	4	61.5	.038	1	3.00	100.2	91.6	11.3	87	98	114	134	156	203	250	319	349	398	1.0	2.5
569	10	59.6	.046	2	3.16	100.2	91.2	11.8	87	95	108	126	148	205	269	329	359	403	.9	2.0
570	11	56.9	.039	1	2.55	100.1	90.9	11.7	85	94	108	132	160	219	265	329	370	409	1.2	2.1
571	10	59.0	.025	1	1.71	100.3	91.5	10.3	91	104	117	140	163	210	252	321	354	409	1.1	1.8
572	10	58.1	.035	1	2.75	100.0	91.1	11.0	86	101	115	140	167	218	263	333	370	406	1.1	1.9
573	3	54.9	.034	-	3.49	100.1	91.7	10.0	98	110	130	160	192	242	282	333	354	426	.7	2.3
574	5	58.0	.028	2	2.73	100.0	90.9	11.9	88	97	110	133	161	217	264	325	364	412	1.2	1.9
575	10	61.0	.041	2	3.20	100.1	91.3	11.8	87	96	107	123	142	191	251	310	338	386	1.1	1.8
576	3	58.1	.037	-	2.61	100.0	90.8	12.2	86	96	109	131	156	212	258	327	370	426	.7	2.3
577	5	61.3	.027	1	2.52	100.1	92.2	10.2	90	103	114	137	160	204	246	314	344	399	1.2	1.8
578	3	57.5	.033	-	2.62	100.0	91.7	9.8	90	107	120	142	166	213	253	305	327	400	.8	2.4
AVERAGE		58.9	.035	1	2.77	100.1	91.4	11.1	89	100	114	136	161	213	259	321	353	406	1.0	2.1
SAMPLES	82																			

TABLE 4. - Motor gasoline survey, winter 1967-68
(Average values for brands from different districts)

Regular-price gasoline

District No.	Name	Items (brands)	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
1	NORTHEAST AREA	14	56	62.8	0.042	1	1.92	95.1	86.4	12.6	81	91	105	125	148	199	260	340	372	410	0.9	2.6
2	MID ATL COAST REGION	19	340	62.5	.037	1	1.75	95.0	86.3	12.7	82	93	106	126	148	198	259	342	373	412	.9	2.4
3	SOUTHEAST AREA	19	278	62.4	.035	1	2.13	94.4	86.2	11.6	86	97	111	132	154	201	254	338	371	412	.9	2.1
4	APPALACHIAN AREA	22	206	62.7	.028	1	2.12	94.6	86.9	13.0	83	95	108	128	151	200	256	333	365	409	.9	2.2
5	MICHIGAN	19	116	63.5	.041	1	2.55	95.0	86.6	13.2	81	91	104	124	146	195	250	332	366	410	.8	2.3
6	NORTH ILLINOIS AREA	18	135	63.6	.039	1	2.41	94.8	86.4	12.6	83	93	103	122	143	194	252	334	366	409	.9	2.1
7	CENTRAL MISS AREA	19	103	63.6	.036	3	2.55	94.6	86.9	12.8	83	94	107	127	149	201	258	334	364	406	.8	2.0
8	LOWER MISS AREA	19	165	63.2	.035	1	2.17	94.1	86.4	11.8	84	97	108	128	149	196	251	336	369	412	.9	1.7
9	NORTH PLAINS AREA	16	81	64.2	.047	1	1.90	92.5	84.5	11.0	83	94	106	126	149	200	252	326	357	410	1.0	2.0
10	CENTRAL PLAINS AREA	13	108	63.9	.033	1	1.74	92.6	85.0	11.9	84	98	109	129	150	200	255	338	375	416	.9	2.1
11	SOUTH PLAINS AREA	20	154	64.1	.030	1	2.03	92.8	86.0	12.0	83	95	106	125	146	192	248	330	364	412	1.0	1.7
12	SOUTHERN TEXAS	20	120	63.0	.038	1	2.29	94.1	86.6	11.3	85	97	109	129	149	194	249	332	363	405	.9	1.8
13	SOUTH MOUNTAIN STATES	24	323	61.9	.051	1	2.10	92.4	84.7	10.7	88	100	115	136	158	203	256	335	368	411	.9	2.2
14	NORTH MOUNTAIN STATES	12	128	62.5	.071	3	1.94	93.2	84.7	12.0	86	97	110	132	156	205	259	342	377	424	1.0	2.6
15	PACIFIC NORTHWEST	10	78	62.9	.028	1	2.28	93.4	86.5	12.6	85	94	106	126	149	198	250	342	378	419	.9	2.7
16	NORTHERN CALIFORNIA	12	71	62.6	.040	1	1.87	93.0	86.0	11.6	88	98	111	133	155	200	248	321	352	397	1.0	2.4
17	SOUTHERN CALIFORNIA	12	77	59.1	.067	2	1.88	93.5	85.0	10.9	90	101	115	137	162	214	275	345	372	413	1.0	1.7
AVERAGE				62.9	.041	1	2.10	93.8	85.9	12.0	84	96	108	129	151	199	255	335	368	411	.9	2.2
SAMPLES			2,539																			

Premium-price gasoline

District No.	Name	Items (brands)	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
1	NORTHEAST AREA	15	57	62.3	0.024	2	2.53	100.4	91.8	12.6	79	90	105	128	154	209	253	316	346	392	0.9	2.5
2	MID ATL COAST REGION	19	340	61.9	.023	1	2.56	100.5	91.8	12.8	81	92	106	128	153	210	256	320	350	395	.9	2.5
3	SOUTHEAST AREA	19	272	62.1	.018	1	2.91	100.3	91.8	11.6	84	95	108	130	154	207	255	319	349	394	1.0	1.9
4	APPALACHIAN AREA	22	205	63.1	.015	2	2.83	100.0	92.5	13.0	82	93	107	128	154	206	251	319	350	397	.8	2.3
5	MICHIGAN	19	118	64.6	.025	1	2.79	100.0	91.9	13.0	81	90	105	129	155	207	247	320	357	406	.8	2.7
6	NORTH ILLINOIS AREA	18	142	63.7	.017	1	2.74	99.9	92.5	12.6	83	93	104	126	152	206	247	318	351	401	.9	2.4
7	CENTRAL MISS AREA	19	104	63.8	.020	2	2.91	99.9	92.5	12.9	81	92	105	128	154	207	247	313	345	393	.8	2.2
8	LOWER MISS AREA	19	168	62.9	.021	1	2.81	100.0	92.1	11.9	83	95	107	129	155	207	251	322	352	400	.9	1.7
9	NORTH PLAINS AREA	16	80	65.9	.038	1	2.47	99.4	92.1	11.7	84	96	108	131	159	206	242	317	354	407	.9	2.5
10	CENTRAL PLAINS AREA	13	106	65.8	.019	1	2.44	98.9	91.3	11.9	84	97	110	132	157	208	251	328	366	409	.9	2.2
11	SOUTH PLAINS AREA	20	155	63.8	.020	1	2.73	99.7	92.5	12.1	82	93	106	128	155	207	251	322	355	403	.9	1.9
12	SOUTHERN TEXAS	20	120	62.7	.024	1	3.03	100.1	92.2	11.1	85	97	110	132	157	204	250	324	356	402	.9	1.6
13	SOUTH MOUNTAIN STATES	24	322	61.8	.027	1	2.78	99.2	91.6	10.9	86	98	114	138	163	212	254	319	352	403	.9	2.4
14	NORTH MOUNTAIN STATES	12	127	62.3	.030	2	2.97	99.2	91.0	12.0	86	95	109	136	166	216	254	320	352	407	1.0	2.8
15	PACIFIC NORTHWEST	10	78	63.7	.015	1	2.48	99.9	91.6	12.4	85	95	108	130	155	203	246	314	346	396	.8	2.8
16	NORTHERN CALIFORNIA	13	73	60.3	.026	1	2.55	100.0	91.6	11.8	86	95	109	129	152	201	254	323	349	399	1.0	2.5
17	SOUTHERN CALIFORNIA	12	82	58.9	.035	1	2.77	100.1	91.4	11.1	89	100	114	136	161	213	259	321	353	406	1.0	2.1
AVERAGE				62.9	.023	1	2.72	99.9	91.9	12.1	84	94	108	130	156	208	251	320	352	401	.9	2.3
SAMPLES			2,549																			

TABLE 5. - Motor gasoline survey, winter 1967-68
Data for some additional grades

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
Third grade gasoline																				
1 579	5	61.0	0.065	2	2.39	93.6	85.7	11.1	80	95	112	134	157	207	262	337	363	417	0.9	1.8
2 580	14	60.8	.040	1	1.33	93.3	85.4	12.0	83	94	108	129	153	210	276	344	373	414	.8	2.2
3 581	8	60.5	.015	1	1.18	92.0	84.3	11.7	87	101	112	131	152	202	264	349	384	413	1.0	1.7
3 582	9	61.8	.063	1	1.83	92.3	84.6	10.6	87	104	118	139	160	204	263	336	364	402	1.1	1.4
4 583	11	60.7	.030	2	1.11	93.2	85.7	12.0	85	99	112	135	159	215	278	353	381	421	.9	1.7
5 584	4	62.8	.025	1	1.19	93.0	85.2	14.2	81	91	103	123	148	203	255	330	368	416	.7	2.1
6 585	4	63.0	.060	2	2.34	93.5	84.7	13.0	82	90	102	121	145	197	255	339	375	414	1.0	2.5
7 586	2	62.7	.034	2	1.74	92.5	85.9	-	-	-	-	-	-	-	-	-	-	-	-	-
7 587	8	61.4	.044	3	1.64	93.0	86.1	12.3	86	104	114	133	154	204	266	334	364	414	.8	1.7
8 588	8	59.9	.028	-	1.35	92.1	85.1	9.8	88	104	117	137	156	204	261	332	361	418	1.1	.7
11 589	4	61.2	-	-	1.91	92.0	84.7	9.3	88	106	118	137	156	204	264	335	365	408	.7	1.3
12 590	9	62.3	.018	-	2.33	92.5	86.8	10.1	89	106	119	141	162	203	249	321	353	407	.9	1.1
13 591	3	61.5	.062	1	1.98	92.3	84.9	9.0	93	111	122	138	156	206	268	340	367	417	.8	1.2
16 592	1	-	-	-	-	89.6	84.9	11.7	84	94	110	132	152	195	241	296	333	399	1.0	2.5
17 593	4	58.0	.050	1	1.22	91.6	84.7	11.3	86	96	112	138	164	213	270	343	384	419	1.0	2.9
AVERAGE		61.3	.041	2	1.68	92.4	85.2	11.3	86	100	113	133	155	205	262	335	367	413	.9	1.8
SAMPLES	94																			

TABLE 5. - Motor gasoline survey, winter 1967-68--Continued
Data for some additional grades

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
Intermediate grade gasoline																				
1 594	6	65.0	0.022	0	1.56	96.9	88.4	14.4	78	86	98	118	143	197	254	319	346	388	0.9	2.8
2 595	17	63.3	.028	1	1.78	96.9	87.4	14.0	79	90	105	126	149	203	255	323	351	396	.7	2.3
3 596	5	62.7	.022	2	2.61	96.7	88.1	12.0	85	97	109	128	150	196	253	323	349	408	.8	1.7
3 597	3	62.8	-	-	2.50	97.2	89.1	12.5	84	96	107	128	152	202	250	324	356	410	.9	1.6
4 598	6	63.1	.030	2	2.68	96.5	87.8	13.2	85	103	115	137	159	203	261	335	366	417	.6	1.4
6 599	1	63.2	.031	2	2.22	96.4	87.8	11.9	84	89	101	119	142	194	251	330	363	416	1.0	3.0
7 600	2	62.7	.023	2	3.12	95.4	88.2	-	-	-	-	-	-	-	-	-	-	-	-	-
8 601	14	62.6	.017	-	2.49	96.6	88.4	11.2	85	100	111	132	152	197	256	344	375	417	1.0	1.4
11 602	4	62.7	-	-	1.78	96.6	88.7	11.9	78	85	92	108	124	172	230	290	340	370	.9	1.1
12 603	10	62.4	.017	-	1.72	96.3	88.5	10.7	89	105	118	136	156	203	256	325	348	394	1.0	1.1
13 604	5	65.6	-	-	2.45	94.6	87.6	9.7	85	103	114	128	146	188	232	327	370	405	1.1	.9
15 605	3	63.1	.020	0	2.15	95.8	88.2	11.9	86	94	106	127	150	197	245	327	360	414	.7	2.3
16 606	1	64.4	.030	1	2.59	96.0	90.0	11.5	93	104	115	130	145	189	240	297	320	353	1.0	2.0
17 607	4	59.2	.036	-	2.21	96.0	87.8	10.3	92	105	118	137	156	205	263	339	367	422	.8	1.2
AVERAGE		63.1	.025	1	2.28	96.3	88.3	11.9	85	97	108	127	148	196	250	323	355	401	.9	1.8
SAMPLES	81																			
Super-premium gasoline																				
1 608	1	63.4	0.007	1	3.65	103.6	95.2	12.4	77	81	99	124	152	210	246	305	376	404	1.0	3.0
2 609	1	62.0	.010	1	3.55	103.6	95.1	12.3	76	84	101	129	155	209	240	315	352	414	1.0	3.0
3 610	1	62.9	.009	1	3.54	103.3	94.8	9.9	88	100	116	143	167	212	248	310	345	404	1.0	2.0
4 611	1	64.1	.002	2	3.50	102.5	97.4	12.6	81	89	100	119	143	215	256	318	345	400	1.0	2.0
5 612	1	65.0	.010	1	3.71	103.4	96.3	13.4	82	92	102	122	147	214	254	315	349	401	.6	1.4
6 613	1	63.8	.001	1	3.35	103.5	96.6	12.3	83	93	102	119	140	206	255	319	346	406	1.0	3.5
13 614	1	63.2	.050	1	2.73	101.1	92.1	7.4	90	118	132	152	173	214	245	301	336	397	1.0	1.0
14 615	1	67.8	.010	1	2.34	100.5	95.1	6.9	102	127	139	160	179	210	232	275	312	394	1.0	1.0
15 616	1	62.6	.010	3	2.51	102.3	94.6	7.5	97	118	129	135	161	204	247	306	328	378	1.0	1.0
16 617	1	60.9	.010	2	2.68	101.8	94.6	7.5	95	112	124	141	159	206	254	324	340	377	1.0	1.0
AVERAGE		63.6	.012	1	3.16	102.6	95.2	10.2	87	101	114	134	158	210	248	309	343	398	1.0	1.9
SAMPLES	10																			

† Research octane numbers above 100 determined by ASTM D1656.

TABLE 6.--Cumulative percents of samples of all grades by research octane numbers by districts, motor-gasoline survey, winter 1967-68

Research octane number	District																	Cumulative total samples
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
89													0.2					1
90									0.6		0.6		1.5			1.4		15
91			0.2				0.5	0.6	1.2	2.8	.6	0.4	4.7	4.7	0.6	5.4	4.2	74
92			2.6				1.4	1.7	25.5	25.2	20.5	3.5	25.4	13.3	1.9	7.5	7.8	420
93	1.6	1.5	6.9	2.6	1.7	1.1	2.7	9.0	47.8	49.1	41.0	11.6	41.0	28.9	25.0	15.6	11.4	875
94	8.8	9.7	32.3	15.6	9.6	10.6	19.6	30.7	49.7	50.5	48.9	36.7	48.6	44.5	46.9	42.9	30.5	1,597
95	44.0	42.0	47.4	48.0	41.8	43.1	50.2	46.2	50.3	50.5	49.8	49.0	50.6	50.0	49.4	49.0	48.5	2,494
96	48.0	49.7	51.7	51.5	49.8	48.8	52.1	50.4	50.3	50.5	50.5	52.5	51.7	50.0	50.6	49.7	50.9	2,673
97	53.6	52.0	52.3	52.0	50.2	49.5	52.5	52.4	50.3	51.9	51.1	53.7	60.4	56.3	50.6	49.7	50.9	2,793
98	53.6	52.1	52.8	52.0	50.2	49.8	52.5	52.7	54.0	54.7	52.1	54.1	62.1	62.1	50.6	49.7	50.9	2,841
99	54.4	56.0	53.6	55.9	60.7	62.9	58.0	56.1	85.7	90.7	75.4	55.2	65.6	73.4	57.5	50.3	50.9	3,247
100	84.0	81.2	88.4	95.6	93.7	95.8	95.9	93.0	99.4	100.0	98.1	87.6	98.5	98.4	98.8	99.3	97.0	4,911
101	98.4	98.2	99.7	99.8	99.6	98.9	100.0	100.0	100.0		100.0	100.0	100.0	100.0	99.4	99.3	100.0	5,249
102	99.2	99.9	99.8	99.8	99.6	98.9									100.0	100.0		5,265
103	99.2	99.9	100.0	100.0	100.0	99.3												5,268
104	100.0	100.0				100.0												5,273

TABLE 7.--Cumulative percents of samples of all grades by motor octane numbers by districts, motor-gasoline survey, winter 1967-68

Motor octane number	District																	Cumulative total samples
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
80													0.2					1
81													.3					2
82			0.2							0.5			1.2	5.1		1.4	0.6	26
83			.7						5.0	.5	0.6		4.6	15.2		1.4	3.0	91
84	0.8	0.1	1.6	0.2	1.3	1.4		2.3	24.8	6.1	3.8	1.5	13.0	23.4		2.0	4.8	252
85	4.8	10.0	7.6	3.0	7.5	10.2	6.4	9.3	46.6	33.2	17.7	6.6	29.8	36.3	0.6	10.2	28.7	799
86	20.0	31.9	30.9	21.7	27.2	27.6	21.0	29.6	50.3	48.6	38.2	20.8	46.3	44.5	28.1	31.3	46.7	1,763
87	45.6	45.6	46.5	37.5	44.4	42.8	41.6	44.5	50.3	50.5	46.4	34.0	50.6	49.6	45.6	46.3	49.1	2,391
88	50.4	50.6	51.0	50.1	48.5	48.1	52.5	47.6	51.6	50.5	50.2	46.3	55.2	54.7	50.0	48.3	50.9	2,675
89	54.4	52.2	52.3	52.0	50.2	49.1	52.5	51.8	52.2	51.4	51.1	52.9	59.3	60.5	50.6	49.0	50.9	2,795
90	57.6	57.8	54.7	54.8	54.4	50.9	53.9	57.5	52.8	52.8	53.6	57.5	62.1	68.0	58.1	61.9	52.1	2,997
91	63.2	71.2	64.9	60.6	67.8	57.2	63.0	68.7	64.0	66.4	64.4	65.6	69.4	79.7	73.1	83.7	86.2	3,586
92	85.6	86.9	88.4	76.2	87.9	77.0	79.9	83.4	91.9	89.7	77.9	78.0	82.9	93.0	91.9	91.2	97.6	4,473
93	98.4	97.9	96.0	93.2	97.5	92.6	95.0	93.0	97.5	97.7	92.1	91.1	90.7	99.2	98.8	96.6	100.0	5,013
94	99.2	99.9	99.8	99.5	99.6	97.9	98.6	98.0	98.8	100.0	96.5	95.8	91.9	99.6	99.4	99.3		5,170
95	100.0	100.0	100.0	99.5	99.6	99.3	100.0	99.4	99.4		99.1	98.8	94.0	100.0	100.0	100.0		5,219
96				99.8	100.0	99.6		100.0	100.0		100.0	99.6	97.7					5,254
97				100.0		100.0						100.0	99.4					5,269
98													100.0					5,272

16
147
San Francisco
Bay area
Los Angeles
area
25
654
259
317
2

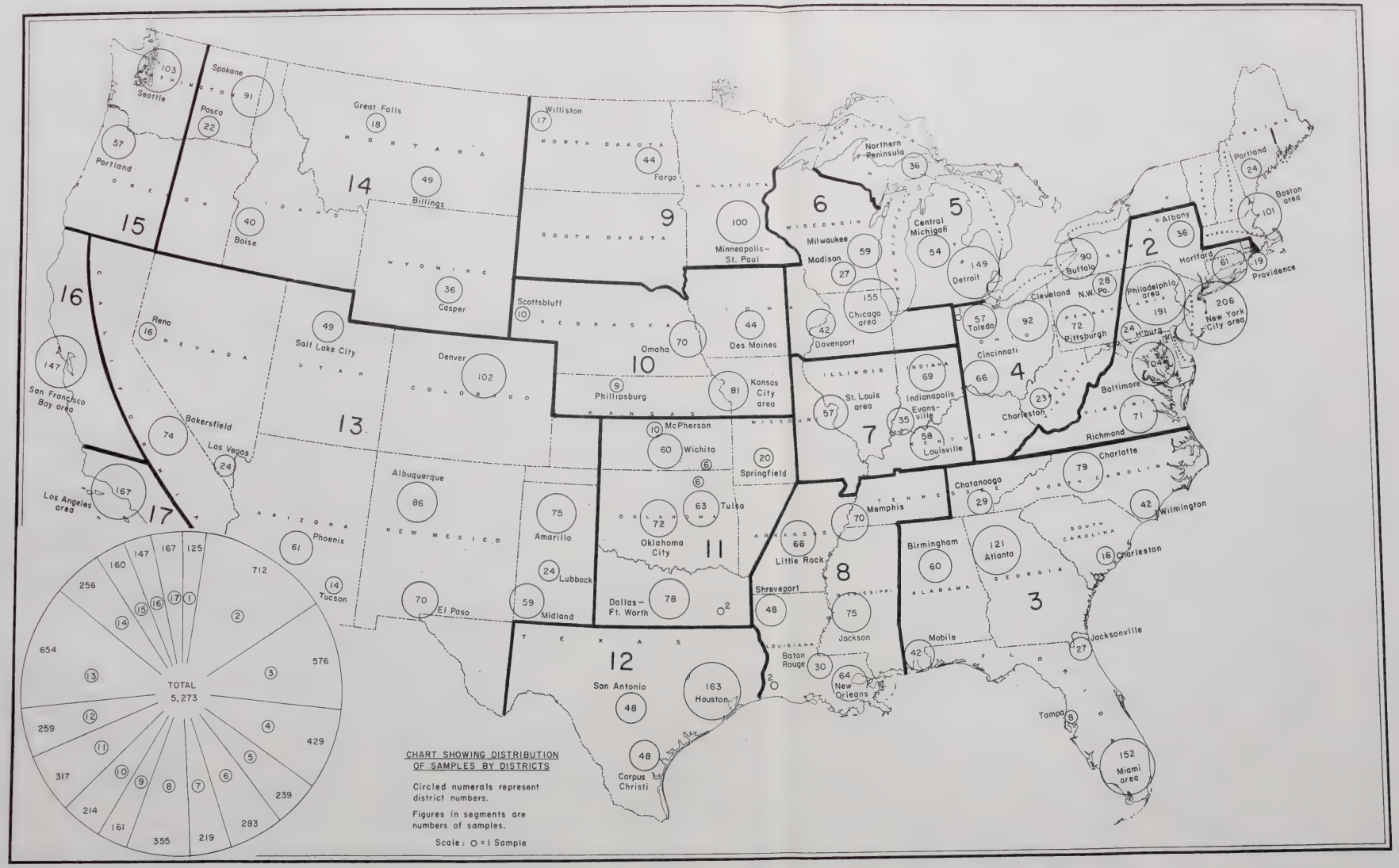


FIGURE 5.– Map Showing Locations and Numbers of Samples for the National Motor Gasoline Survey, Winter 1967–68.

TABLE 8. - Locations and numbers of samples, motor gasoline survey, winter 1967-68

State	Location	Samples
District 1 (Northeast area)		
Maine	Portland	24
Massachusetts	Boston area	101
	2 locations	125
District 2 (Mid-Atlantic Coast region)		
Connecticut	Hartford area	61
Maryland	Baltimore	104
New Jersey and New York	New York City area	206
New York	Albany	36
Pennsylvania	Harrisburg	24
Pennsylvania and New Jersey	Philadelphia area	191
Rhode Island	Providence	19
Virginia	Richmond	71
	8 locations	712
District 3 (Southeast area)		
Alabama	Birmingham	60
	Mobile	42
Florida	Jacksonville	27
	Miami area	152
	Tampa	8
Georgia	Atlanta	121
North Carolina	Charlotte	79
	Wilmington	42
South Carolina	Charleston	16
Tennessee	Chatanooga	29
	10 locations	576
District 4 (Appalachian area)		
New York	Buffalo	90
Ohio	Cincinnati	66
	Cleveland	92
	Lima	1
	Toledo	57
Pennsylvania	Northwest Pennsylvania	28
	Pittsburgh	72
West Virginia	Charleston	23
	8 locations	429
District 5 (Michigan)		
Michigan	Central Michigan	54
	Detroit	149
	Northern Peninsula	36
	3 locations	239
District 6 (North Illinois area)		
Illinois and Indiana	Chicago area	155
Iowa	Davenport	42
Wisconsin	Madison	27
	Milwaukee	59
	4 locations	283
District 7 (Central Mississippi area)		
Indiana	Evansville	35
	Indianapolis	69
Kentucky	Louisville	58
Missouri and Illinois	St. Louis area	57
	4 locations	219
District 8 (Lower Mississippi area)		
Arkansas	Little Rock	66
Louisiana	Baton Rouge	30
	Lake Charles	2
	New Orleans	64
	Shreveport	48
Mississippi	Jackson	75
Tennessee	Memphis	70
	7 locations	355
District 9 (North Plains area)		
Minnesota	Minneapolis-St. Paul	100
North Dakota	Fargo	44
	Williston	17
	3 locations	161
District 10 (Central Plains area)		
Iowa	Des Moines	44
Kansas	Phillipsburg	9
Kansas and Missouri	Kansas City area	81
Nebraska	Omaha	70
	Scottsbluff	10
	5 locations	214
District 11 (South Plains area)		
Kansas	Coffeyville	6
	McPherson	10
	Wichita	60
Missouri	Springfield	20
Oklahoma	Bartlesville	6
	Oklahoma City	72
	Tulsa	63
Texas	Dallas-Ft. Worth	78
	Tyler	2
	9 locations	317
District 12 (Southern Texas)		
Texas	Corpus Christi	48
	Houston	163
	San Antonio	48
	3 locations	259
District 13 (South Mountain States)		
Arizona	Phoenix	61
	Tucson	14
California	Bakersfield	74
Colorado	Denver	102
Nevada	Las Vegas	24
	Reno	16
New Mexico	Albuquerque	86
Texas	Amarillo	75
	El Paso	70
	Lubbock	24
	Midland	59
Utah	Salt Lake City	49
	12 locations	654
District 14 (North Mountain States)		
Idaho	Boise	40
Montana	Billings	49
	Great Falls	18
Washington	Pasco	22
	Spokane	91
Wyoming	Casper	36
	6 locations	256
District 15 (Pacific Northwest)		
Oregon	Portland	57
Washington	Seattle	103
	2 locations	160
District 16 (Northern California)		
California	San Francisco Bay area	147
	1 location	147
District 17 (Southern California)		
California	Los Angeles area	167
	1 location	167
	Total	88 locations 5,273

DISTRICT	LOCATIONS	SAMPLES	PERCENT
1	2	125	2.4
2	8	712	13.5
3	10	576	10.9
4	8	429	8.1
5	3	239	4.5
6	4	283	5.4
7	4	219	4.1
8	7	355	6.7
9	3	161	3.1
10	5	214	4.1
11	9	317	6.0
12	3	259	4.9
13	12	654	12.4
14	6	256	4.9
15	2	160	3.0
16	1	147	2.8
17	1	167	3.2
Total	88	5,273	100.0